Landuse Type Cropland	Resc	ource Setting N	No <u>. 1</u>	MLRA	102 FIE	LD OFFICE _		
Resource Setting: Soil – Silt Loam (SiL) – Slope 6-1: Wind Erosion at 7T/Ac/Yr. Gully No Upland Game Birds. Pesticide	Erosion and S s/Nutrients in	oil Compaction stream. Rotat	on. Pest pressuion C-SB.	res on crops.				
		FERENCE FF	ROM CPPE A	ND RESOUR	CE CONSIDERA	TIONS		
Resource:	Soil						Water	
	A-1-a Sheet & Rill	A-1-b Wind	A-1-d Classic Gully	A-2-a Soil Tilth	A-2-b Soil Compaction	A-3-b Offsite Deposition	B-2-g Contamination Pesticide	B-2-h Contamination Nutrient
RMS # 2 Practice # And Name:					ļ.			
328-Corn, Soybeans								
329-Cons. Till.	SIG+	SIG+	NEG	MOD+	MOD+	MOD+	SLI+	SLI+
600s-Terrace	SLI+	SLI+	SIG+	SLI+	SLI-	SIG+	MOD+	MOD+
620-Underground Outlet	F	F	F	F	F	F	F	F
595-Pest Management	О	О	NEG	NEG	NEG	NEG	MOD+	NEG
590-Nutrient Mgt.	NEG	NEG	NEG	NEG	NEG	NEG	NEG	SIG+
645-Upland Wildlife Mgt.	MOD+	MOD+	NEG	MOD+	MOD+	SLI+	MOD+	MOD+
393-Filter Strip	NEG	NEG	NEG	NEG	NEG	SIG+	MOD+	MOD+
	I		l	I	- 1	1	•	1
Developed By/Date	d By/Date AO Concurrence/Date					SO Concurrence	ce/Date	

Landuse Type Cropland Resource Setting No. 1 MLRA 56 FIELD OFFICE Red Lake Falls Tech Guide										
						Range: 0-2% Major Resource concerreduction in drainage maintenance co				
		REFERENCE	FROM CPPE	AND RESOU	JRCE CONSID	DERATIONS				
Resource:	Soil			Air						
	Wind Erosion A-1-b	Damage Onsite A-3-a	Damage Offsite A-3-b	Quality Onsite C-1-a	Quality Offsite C-1-b	Airborne Sediment Particles Causing Conveyance Problems C-1-g	Airborne Chemical C-1-h			
RMS # 2 Practice # And Name:										
328-Conservation Crop Sequence										
329-Cons. Till. (Mulch)	SIG+	SIG+	MOD+	SIG+	MOD+	SIG+	MOD+			
340-Cover/Green Manure	MOD+	MOD+	SLI+	MOD+	MOD+	SLI+	NA			
590-Nutrient Management	SLI+	SLI+	SLI+	SLI+	NEG	SLI+	NEG			
595-Pest Management	NEG	NEG	NEG	SLI+	SLI+	SLI+	SLI+			
645-Wildlife Upland Management	SLI+	NEG	NEG	NA	NA	NA	NA			
393-Filter Strip	NEG	SLI+	MOD+	NEG	NEG	NEG	NEG			
		·		·	•					
Developed By/Date		AO Concu	rrence/Date			SO Concurrence/Date				

Landuse Type Cropland	Resource Sett	ing No <u>. 1</u>	_ MLRA <u>56</u>		FIELD OFFICE	Red Lake Fal	lls Tech Guide	
Resource Setting: Soil – Silt Loam (SiL) – Slope 6-12%. Wind Erosion at 7T/Ac/Yr. Gully Erosi No Upland Game Birds. Pesticides/Nut	on and Soil Comp	action. Pest pres						
	REFEREN	NCE FROM CPP	E AND RESOUR	CE CC	NSIDERATION	IS		
Resource:	Plants	Animals						
	Establishment Growth and Harvest D-3-a	Cover and Shelter E-1-b						
RMS # 1								
Practice # And Name: 328-Conservation Cropping Sequence								
329-Cons. Till. (Mulch)	NEG	SLI+						
340-Cover/Green Manure	SLI+	SLI+						
590-Nutrient Management	MOD+	MOD+					-	
595-Pest Management	SLI+	MOD-						
645-Wildlife Upland Management	NA	NA						
393-Filter Strip	NEG	MOD+						
Developed By/Date	AO C	oncurrence/Date_			SO C	oncurrence/Dat	re	

UNITED STATES DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE

Landuse Type Cropland

MINNESOTA TECHNICAL GUIDE SECTION III CONSERVATION MANAGEMENT SYSTEM (CMS) GUIDANCE DOCUMENT Resource Setting No. 1 MLRA 56 FIELD OFFICE Crookston

	REFE	RENCE FROM	И СРРЕ AND F	RESOURCE CON	SIDERATIONS				
Resource:	Soil			Water		Plant			
	Wind Erosion A-1-b	Deposition On Site A-3-a	Deposition Off Site A-3-b	Quantity Restricted Cap. Deposit On Site B-1-g	Quantity Restricted Cap. Deposit Off Site B-1-h	Management Est. Growth and Harvest D-3-a	Management Nutrient D-3-b	Management Pest D-3-c	
RMS # 1				8					
Practice # And Name: 328-Conservation Cropping Sequence									
329-Cons. Till. (Mulch)	SIG+	SIG+	SIG+	MOD+	MOD+	NEG	NEG	NEG	
392-Field Windbreak	MOD+	MOD+	SIG+	MOD+	MOD+	SIG+	SIG+	NEG	
340-Coves/Green Manure	SIG+	MOD+	SLI+	SLI+	SLI+	SLI+	MOD+	MOD+	
590-Nutrient Management	SLI+	SLI+	SLI+	SLI+	SLI+	SIG+	SIG+	SLI+	
595-Pest Management	SLI+	NEG	NEG	NEG	NEG	SIG+	NEG	SIG+	
645-Wildlife Upland Management	SLI+	NEG	NEG	SLI+	SLI+	SLI+	SLI+	SLI+	
393-Filter Strip	NEG	SLI+	MOD+	SLI+	MOD+	NEG	NEG	NEG	

Landuse Type Cropland	Resource Setting 1	No <u>. 1</u>	_ MLRA	56	FIELD OFFICE	Crookston		
Resource Setting: Soil – Silt Loam (SiL Wind Erosion at 7T/Ac/Yr. Gully Erosi No Upland Game Birds. Pesticides/Nut	on and Soil Compaction	on. Pest pres						
	REFERENCE	FROM CPP	E AND RES	SOURCE C	CONSIDERATION	IS		
Resource:	Animal							
	Cover and Shelter E-1-b							
RMS # 1 Practice # And Name:								
328-Conservation Cropping Sequence								
329-Cons. Till. (Mulch)	SLI+							
392-Field Windbreak	MOD+							
340-Cover/Green Manure	SLI+							
590-Nutrient Management	SLI+							
595-Pest Management	MOD-							
645-Wildlife Upland Management	SIG+							
393-Filter Strip	MOD+							
Developed By/Date	AO Cono	urrence/Date			50.0	oncurrence/Dat	to	

Landuse Type Cropland	Resource S	etting No <u>. 1</u>	MLRA	56	FIELD OFFIC	E <u>Breckenridge</u>	2	
Resource Setting: This is non-in	rigated croplar	nd. The major	or soils are lo	amy fine sa	nd. The crop	pping sequence	e is small grain	and
soybeans. The landowner is ex								
contamination potential exists f							mproving wildl	ife habitat.
		ENCE FROM (CPPE AND RE		NSIDERATIO		1	
Resource:	Soil			Water		Air	Plant	
	Wind Erosion	Deposition On Site Damage	Deposition Off Site Damage	Ground Water Pesticides	Nutrients & Organics	Airborne Safety Offsite	Nutrient Management	
	A-1-b	A-3-a	A-3-b	B-2-a	B-2-b	C-1-b	D-3-b	
RMS # 2 Practice # And Name:								
328-CCS (SG, SQ, SG, SB)								
329-No Tillage	SIG+	SIG+	SIG+	SLI+	SLI-	MOD+	SLI-	
392-Field Windbreak	SIG+	MOD+	MOD+	SLI+	SLI-	MOD+	MOD+	
645-Wildlife Upland Management	SLI+	NEG	NEG	SLI+	SLI+	SLI+	SLI+	
644-Wildlife Wetland Habitat Management	SLI+	SLI+	SLI+	SLI+	SLI+	SLI+	NA	
590-Nutrient Management	NEG	NEG	NEG	NEG	SIG+	NEG	SIG+	
595-Pest Management	SLI+	NEG	NEG	SIG+	NEG	SLT+	NA	
393-Filter Strip	NEG	SLI+	MOD+	MOD+	MOD+	NEG	NEG	
······································	-	·····				•	·	
Developed By/Date	AC	Concurrence/	Date		SO	Concurrence/Date	e	

Landuse Type Cropland	Resource Setting	No <u>. 1</u>	MLRA 56	FIELD (OFFICE <u>B</u>	eckenridge	
Resource Setting: This is non-irrigate. The landowner is experiencing wind exists from improper nutrient and pe	erosion. Soil	blowing acro	oss the road is	causing a saf	fety hazard	. Ground wa	
			PE AND RESOU				
Resource:	Animal						
	Food	Cover and Shelter	Drinking Water				
RMS # 2 Practice # And Name:	E-1-a	E-1-b	E-1-c				
328-CCS(SG,SG,SG,SB)							
329-No Till	MOD+	MOD+	MOD+				
392-Field Windbreaks	MOD+	MOD+	NEG				
645-Wildlife Upland Management	SIG+	SIG+	SLI+				
644-Wildlife Wetland Habitat Management	SIG+	SIG+	SIG+				
590-Nutrient Management	SLI+	MOD	SLI+				
595-Pest. Management	MOD-	SLI-	SLI-				
393-Filter Strip	SLI+	MOD+	NEG				
Developed By/Date	AO Cone	currence/Date_			_ SO Concu	rrence/Date	

MINNESOTA TECHNICAL GUIDE SECTION III CONSERVATION MANAGEMENT SYSTEM (CMS) GUIDANCE DOCUMENT Pagagarage Setting No. 1 MI PA 56 FIFE D OFFICE - Pagagaragid

Landuse Type Cropland	Resource	e Setting No.	1 MLF	RA <u>56</u>	FIELD OFF	ICE Breckenri	dge	
Resource Setting: This is non- grain and soybeans. The land								
water contamination potential		_		_			-	
habitat.		1 1	1	8			1 6	
	REFER	RENCE FROM	CPPE AND R	ESOURCE CO	ONSIDERATIO	ONS		
Resource:	Soil			Water		Air	Plant	
	Wind Erosion A-1-b	Deposition Onsite Damage A-3-a	Deposition Offsite Damage A-3-b	Pesticides B-2-a	Nutrients & Organics B-2-b	Airborne Safety Offsite	Management Nutrient D-3-b	
RMS # 1 Practice # And Name:	A-1-0	A-3-a	A-3-0	D-2-a	B-2-0	C-1-0	D-3-0	
328-CCS(SG,SG,SG,SB)								
329m-Cons. Tillage (Mulch)	SIG+	SIG+	MOD+	NEG	NEG	MOD+	NEG	
392-Field Windbreak	SIG+	MOD+	MOD+	SLI-	SLI-	MOD+	MOD+	
645-Wildlife Upland Management	SLI+	NEG	NEG	SLI+	SLI+	SLI+	SLI+	
644-Wildlife Wetland Habitat Management	SLI+	SLI+	SLI+	SLI+	SLI+	SLI+	NA	
590-Nutrient Management	NEG	NEG	NEG	NEG	SIG+	NEG	SIG+	
595-Pest Management	SLI+	NEG	NEG	SIG+	NEG	SLI+	NA	
393-Filter Strip	NEG	SLI+	MOD+	MOD+	MOD+	NEG	NEG	
Developed By/Date		AO Concurrenc	re/Date		<u> </u>	O Concurrence/I	Date	

MINNESOTA TECHNICAL GUIDE SECTION III CONSERVATION MANAGEMENT SYSTEM (CMS) GUIDANCE DOCUMENT Resource Setting No. 1 MLRA 56 FIELD OFFICE Breckenridg

Landuse Type Cropland	Reso	urce Setting No.	<u> </u>	. 56	FIELD OF	ICE <u>Brecker</u>	<u>iridge</u>	
Resource Setting: This is non-	-irrigated ci	ropland. The r	najor soils are s	andy loam	on 1-2% slo	pe. The cro	pping sequenc	ce is small
grain and soybeans. The land	owner is ex	xperiencing wi	nd erosion. Soi	l blowing a	across the ro	ad is causing	g a safety haza	rd. Ground
water contamination potential	exists fron	n improper nut	rient and pest n	nanagemen	t. Producer	also has a co	oncern in impr	oving wildlife
habitat.			-	_			-	_
		FERENCE FROM	A CPPE AND RES	SOURCE CC	NSIDERATION NEIDERATION NEIDER	ONS		
Resource:	Animal							
	Food	Cover &	Drinking					
		Shelter	Water					
	E-1-a	E-1-b	E-1-c					
RMS #								
Practice # And Name:								
328-CCS(SG,SG,SG,SB)								
329m-Cons Till Mulch	MOD+	SLI+	MOD+					
392-Field Windbreak	MOD+	MOD+	NEG					
645-Wildlife Upland Management	SIG+	SIG+	SLI+					
644-Wildlife Wetland Habitat Management	SIG+	SIG+	SIG+					
590-Nutrient Management	SLI+	MOD+	SLI+					
595-Pest Management	MOD-	SLI-	SLI-					
393-Filter Strip	MOD+	MOD+	NEG					
<u> </u>	A	L	I		·k	.1		J
Developed By/Date		AO Concurren	nce/Date		S	O Concurrence	e/Date	

UNITED STATES DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE

Landuse Type Cropland

MINNESOTA TECHNICAL GUIDE SECTION III CONSERVATION MANAGEMENT SYSTEM (CMS) GUIDANCE DOCUMENT Resource Setting No. 1 MLRA 56 FIELD OFFICE Warren

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Resource Setting:	The major soils are loa	amy fine sand with	slopes less than 2%	. The cropping s	equence is three year	s small grain, one-year	

potatoes. Resource concerns include; wind erosion, poor water infiltration, soil compaction, seasonal field flooding, pesticides, air quality, plant nutrient deficits, plant diseases and shortage of wildlife cover Landowner desires a stable, economic cropping system.

REFERENCE FROM CPPE AND RESOURCE CONSIDERATIONS

Resource: Cropland	Soil			Water		Air				Plant		Animals
	Wind Erosion A-1-b	Soil Tilth A-2-a	Soil Compaction A-2-b	Excess run-off / Flooding B-1-b	Ground Water Pesticides B-2-a	Quality Onsite C-1-a	Quality Off-site C-1-b	С-1-е	C-1-f	Nutrient Mgmt D-3-b	Pest Mgmt D-3-c	Habitat Cover E-1-b
RMS # 1 Practice # And Name: 328-Conservation Cropping Sequence												
329m-Cons. Till.	SIG+	MOD+	SIG+	SLI+	NEG	MOD+	SLI+	MOD+	SLI+	NEG	NEG	SLI+
392-Field Windbreak	MOD+	MOD+	MOD+	SLI-	SLI-	SIG+	MOD+	SIG+	MOD+	SLI+	NA	SLI+
607-Surface Drainage Ditch Field	NEG	SLI+	SLI+	SIG+	SLI+	NA	NA	NA	NA	SLI+	SLI+	NEG
590-Nutrient Management	SLI+	SLI+	SLI+	SLI+	SLI+	SLI+	NEG	SLI+	SLI+	SIG+	SLI+	SLI+
595-Pest Management	NEG	NEG	NEG	NA	MOD+	SLI+	NEG	SLI+	NEG	NA	SIG+	SLI-
645-Upland Wildlife Management	SLI+	SLI+	SLI+	SLI+	SLI+	SLI+	SLI+	SLI+	SLI+	SLI+	SLI+	SIG+
393-Filter Strip	NEG	NEG	NEG	NA	MOD+	NEG	NEG	MOD+	SLI+	NEG	NEG	MOD+

Developed By/Date	AO Concurrence/Date	SO Concurrence/Date

UNITED STATES DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE

Landuse Type Cropland

MINNESOTA TECHNICAL GUIDE SECTION III CONSERVATION MANAGEMENT SYSTEM (CMS) GUIDANCE DOCUMENT Resource Setting No. 1 MLRA 56 FIELD OFFICE Roseau

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Resource Setting: The major s	oil is Percy Fine Sandy Loa	m with a slope range of 0 to	1%. Wind eros	sion rates of approx 15.0 t/ac/yr are du	e to fall plowing with
little to no recidue remaining	The granning sequence is the	bree years small grain and 1	vr cunflowers	Doct procesure is evident on all grops of	rown Odor from

	REFER	ENCE FROM	CPPE AND R	ESOURCE CO	ONSIDERAT	IONS		
Resource:	Soil				Air	Plants		Animals
	Wind Erosion	Soil Condition Tilth	Soil Onsite Damage	Soil Deposition	Airborne Odors	Nutrient Management	Pest Management	Wildlife Food
	A-1-b	A-2-a	A-3-a	A-3-b	C-1-i	D-3-b	D-3-c	E-1-a
RMS # 1 Practice # And Name:								
328-Conservation Cropping Sequence								
344-Crop Residue Use	SIG+	MOD+	SIG+	SIG+	NEG	NEG	NEG	MOD+
392-Field Windbreak	SIG+	NEG	SIG+	SIG+	NEG	NEG	NEG	SLI+
645-Wildlife Upland Management	NEG	NEG	NEG	NEG	NEG	NEG	NEG	SIG+
595-Pest Management Mech.	SLI+	NEG	SLI+	SLI+	NA	NEG	SIG+	NEG
595-Pest Management Chemical	NEG	NEG	NEG	NEG	NA	NEG	SIG+	SL-
590-Nutrient Management	NEG	NEG	NEG	NEG	SLI+	SIG+	SLI+	NEG
633-Waste Utilization	NEG	MOD+	NEG	NEG	SIG+	SIG+	SLI-	NEG
393-Filter Strip	NEG	NEG	SLI+	MOD+	NEG	NEG	NEG	SLI+

Developed By/Date	AO Concurrence/Date	SO Concurrence/Date
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Landuse Type Cropland	Resource	Setting No.	1 MLF	RA <u>88</u>	FIELD OF	FICE Roseau		
Resource Setting: The major soil is with little to no residue remaining. from animal waste spread on fields. encouraging resident wildlife, ex. de	The cropping seq Objectives of lar eer, sharptail grou	uence is three indowners are researched.	years small gra aising crops for	in and 1 yr. sur r a maximum e	nflowers. Pes economic retur	t pressure is evide n, reducing wind	ent on all crops gr	rown. Odor
		ENCE FROM	CPPE AND R	ESOURCE CO	ONSIDERATI	ONS		
Resource:	Soil				Air	Plants		Animals
	Wind Erosion	Soil Condition Tilth	Soil Onsite Damage	Soil Deposition	Airborne Odors	Nutrient Management	Pest Management	Wildlife Food
RMS # 2	A-1-b	A-2-a	A-3-a	A-3-b	C-1-i	D-3-b	D-3-c	E-1-a
Practice # And Name:								
328-CCS Small Grain	MOD+	SLI+	SLI+	SLI+	NEG	SLI+	SLI-	SLI+
329-Cons Till. System 30% sg	SIG+	MOD+	SIG+	SIG+	NEG	NEG	NEG	SIG+
392-Field Windbreak	SIG+	NEG	SIG+	SIG+	NEG	NEG	NEG	SIG+
645-Wildlife Upland Management	NEG	NEG	NEG	NEG	NEG	NEG	NEG	SIG+
595-Pest Management Mech.	SLI-	NEG	SLI-	SLI+	NA	NEG	SIG+	NEG
595-Pest Management Chemical	NEG	NEG	NEG	NEG	NA	NEG	SIG+	SLI-
590-Nutrient Management	NEG	NEG	NEG	NEG	SLI+	SIG+	SLI+	NEG
633-Waste Utilization	NEG	MOD+	NEG	NEG	SIG+	SIG+	SLI-	NEG
393-Filter Strip	NEG	NEG	SLI+	SLI+	NEG	NEG	NEG	SLI+
Developed By/Date	A	O Concurrence	ee/Date			SO Concurrence/l	Date	•

Resource Setting: Soil – S and Soil Compaction. Pest	` /							r. Gully Erosion		
	RE	FERENCE F	ROM CPPE AN	ND RESOURC	E CONSIDERA	TIONS				
Resource:	Soil									
	Sheet & Rill	Wind	Classic Gully	Soil Tilth	Soil Compaction	Offsite Deposition	Contamination Pesticide	Contamination Nutrient		
	A-1-a	A-1-b	A-1-d	A-2-a	A-2-b	A-3-b	B-2-g	B-2-h		
RMS # 2 Practice # And Name:										
328-Corn, Soybeans										
329-Cons Till (No-Till)	SIG+	SIG+	SLI+	MOD+	MOD+	MOD+	MOD+	MOD+		
330-Contouring	SLI+	NEG	NEG	NEG	NEG	MOD+	MOD+	SLI+		
386-Field Border	F	F	F	F	F	F	F	F		
412-Waterway	NEG	NEG	SIG+	NEG	NEG	SLI+	SLI+	SLI+		
595-Pest Management	NEG	NEG	NEG	NEG	NEG	NEG	MOD+	NEG		
590-Nutrient Management	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG		
393-Filter Strip	NEG	NEG	NEG	NEG	NEG	SIG+	MOD+	MOD+		
Developed By/Date AO Concurrence/Date SO Concurrence/Date										

Landuse Type Cropland	Resourc	e Setting No <u>.</u>	1	MLRA	102	FIELD O	FFICE			
Resource Setting: Soil – Silt Loar Compaction. Pest pressures on cr								Gully Erosio	on and Soil	
	REFEI	RENCE FROI	M CPPE AN	JD RESO	URCE (CONSIDERATI	ONS			
Resource:	Plants	Animals		TES O	01102					
	Nutrient Management	Food	Shelter							
	D-3-b	E-1-a	E-1-b							
RMS # 1 Practice # And Name:										
328-Corn, Soybeans										
329-Cons Till (No till)	SLI+	SIG+	SIG+							
330-Controuring	NEG	NEG	NEG							
386-Field Border	F	SLI+	MOD+							
412-Waterway	NA	SLI+	MOD+							
595-Pest Management	NA	SIG-	MOD-							
590-Nutrient Management	SIG+	MOD+	SLI+							
393-Filter Strip	NEG	SLI+	MOD+							
<u> </u>	-	- L				L		J	J	
Developed By/Date		AO Concurre	nce/Date				SO Concurre	nce/Date		

Pagaziras Satting: Sail Silt Loom 6			MI Dill Erosian	•			ully Erasian and Cai	Compation
Resource Setting: Soil – Silt Loam (Pest pressures on crops. No Upland	(SIL) – 6-12% SI I Game Birds. P	esticides/Nut	rients in stream	Rotation C-S	B.	at /1/AC/11. G	uny Erosion and Sor	Compaction.
Resource:	Soil	ERENCE FE	ROM CPPE AN	Water				
Resource.	3011						w ater	
	Sheet & Rill	Wind	Classic Gully	Soil Tilth	Soil Compaction	Offsite Deposition	Contamination Pesticide	Contamination Nutrient
	A-1-a	A-1-b	A-1-d	A-2-a	A-2-b	A-3-b	B-2-g	B-2-h
RMS # 1 Practice # And Name:								
645-Upland Wildlife Management	MOD+	MOD+	NEG	MOD+	MOD+	SLI+	MOD+	MOD+
Developed By/Date		AO Concurre				SO Concurrence		

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Landuse Type <u>Cropland</u>	Resourc	e Setting No <u>.</u>	<u> </u>	MLRA <u>102</u>	FIELD O	FFICE		
Resource Setting: Soil – Silt Loam Compaction. Pest pressures on crop							Gully Erosion an	d Soil
					CONSIDERATI			
Resource:	Plants	Animals						
	Nutrient Management	Food	Shelter					
	D-3-b	E-1-a	E-1-b					
RMS # 1 Practice # And Name:								
645-Upland Wildlife Management	MOD+	SIG+	SIG+					
Developed By/Date	·	AO Concurre	nce/Date			SO Concurren	ce/Date	

Landuse Type Cropland	Resourc	e Setting No.	ML	RA <u>102</u>	FIELD C	OFFICE		
Resource Setting: Soil – Silt Loan Compaction. Pest pressures on cr							Gully Erosion and	Soil
	REFEI	RENCE FROM	И CPPE AND I	RESOURCE (CONSIDERAT	IONS		
Resource:	Plants	Animals						
	Nutrient Management	Food	Shelter					
	D-3-b	E-1-a	E-1-b					
RMS # 2 Practice # And Name:								
328-Corn, Soybeans								
329-Cons Till (Mulch)	NEG	MOD+	SLI+					
600s-Terrace	NEG	SLI+	MOD+					
620-Underground Outlet	F	F	F					
595-Pest Management	MOD+	SIG-	MOD-					
590-Nutrient Management	MOD+	MOD+	SLI+					
645-Upland Wildlife Mgmt	MOD+	SIG+	SIG+					
393-Filter Strip	NEG	SLI+	MOD+					
Developed By/Date	,	AO Concurre	nce/Date	•	,	SO Concurrence	e/Date	

Landuse Type Cropland	Reso	ource Setting No	<u>1</u> N	MLRA <u>102A</u>	FIELD O	FFICE				
Resource Setting: Soil – Loam (I Topography is uniform and conto								and rill erosion.		
	R	EFERENCE FRO	M CPPE AN	ID RESOURCE	CONSIDERATI	ONS				
Resource:	Soil		Plant							
	Sheet & Concentrated Classic Compaction Offsite Excess/ Sub Nutri Rill Flow Gully Deposition Surface									
	A-1-a	A-1-c	A-1-d	A-2-b	A-3-b	B-1-c	D-3-b	D-3-c		
RMS # 1 Practice # And Name:										
328-Corn, Soybeans					-					
329-Cons. Till. (Mulch)	SIG+	SLI+	NEG	SIG+	SIG+	SLI+	NEG	NEG		
600s-Terraces	MOD+	SIG+	SIG+	NEG	SIG+	NEG	NEG	SLI-		
330-Countouring	MOD+	SLI+	NEG	NEG	SLI+	SLI+	NEG	NEG		
412-Waterway	NEG	SIG+	SIG+	NEG	SLI+	NEG	NEG	SLI+		
386-Field Border	F	F	F	F	F	F	F	F		
644-Wetland Wildlife Mgmt.	SLI+	SLI+	NEG	SLI+	MOD+	MOD+	NEG	MOD+		
Developed By/Date		AO Concurren	ce/Date		S	O Concurrence/I	Oate			

UNITED STATES DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE

Landuse Type Cropland	Reso	ource Setting No.	. 1	MLRA	<u>102A</u>		FIELD OFFIC	CE		_	
Resource Setting: Soil – Loam (Lerosion. Topography is uniform a											
REFERENCE FROM CPPE AND RESOURCE CONSIDERATIONS											
Resource:	Animals										
	Habitat/ Cover	Population									
	E-1-b	E-2-a									
RMS # 1 Practice # And Name:											
328-Corn, Soybeans											
329-Cons. Till. (Mulch)	NEG	SLI+									
600-Terraces	NEG	SLI+									
330-Countouring	NEG	NEG									
412-Waterway	NEG	SLI+									
386-Field Border	F	F									
644-Wetland Wildlife Mgmt.	MOD+	SIG+									
							·			<u> </u>	
Developed By/Date		AO Concurre	ence/Date_				SO C	oncurrenc	e/Date		

Landuse Type Cropland	Reso	ource Setting No.	<u> </u>	MLRA <u>102A</u>	FIELD (OFFICE		
Resource Setting: Soil – Loam (L) Topography is uniform and contou								and rill erosion.
	R	EFERENCE FRO	M CPPE AN	ND RESOURCE	CONSIDERAT	IONS		
Resource:	Soil					Water		Plant
	Sheet & Rill	Concentrated Flow	Classic Gully	Compaction A-2-b	Offsite Deposition	Excess/ Sub Surface	b Nutrient Mgmt.	Pest Mgmt.
	A-1-a	A-1-c	A-1-d	11 2 0	A-3-b	B-1-c	D-3-b	D-3-c
RMS # 2 Practice # And Name:								
590-Nutrient Management	NEG	NEG	NEG	NEG	NEG	NEG	SIG+	SLI+
595-Pest Management	NEG	NEG	NEG	NEG	NEG	NEG	NEG	SIG+
606-Subsurface Drain	F	F	F	F	F	F	F	F
342-Critical Area Seed	F	F	F	F	F	F	F	F
393-Filter Strip	NEG	NEG	NEG	NEG	SIG+	NA	NEG	NEG
Developed By/Date AO Concurrence/Date SO Concurrence/Date								

Landuse Type Cropland	Resou	arce Setting No.	1	MLRA <u>102A</u>	FIELD	OFFICE		
Resource Setting: Soil – Loam (L) erosion. Topography is uniform and								
	REF	ERENCE FRO	M CPPE AN	ID RESOURC	E CONSIDERAT	TIONS		
Resource:	Animals		-					
	Habitat/ Cover	Population						
	E-1-b	E-2-a						
RMS # 1 Practice # And Name:								
590-Nutrient Management	SLI+	NEG						
595-Pest Management	MOD-	MOD-						
606s-Subsurface Drain	F	F						
342-Critical Area Seed	F	F						
393-Filter Strips	MOD+	NEG						
Developed By/Date		AO Concurre	ence/Date			SO Concurrence	e/Date	

Landuse Type Cropland	Reso	ource Setting No	<u>1</u> N	MLRA <u>102A</u>	FIELD	OFFICE		
Resource Setting: Soil – Loam (erosion. Topography is uniform								
	R	EFERENCE FRO	M CPPE AN	ND RESOURCE	CONSIDERA	TIONS		
Resource:	Soil		-			Water		Plant
	Sheet & Rill Erosion	Concentrated Flow Erosion A-1-c	Classic Gully	Compaction	Offsite Damage Deposition	Excess Run-Off/Flooding	Excess Sub- Surface Moisture	Nutrient Mgmt.
RMS # 2	A-1-a		A-1-d	A-2-b	A-3-b	B-1-b	B-1-c	D-3-b
Practice # And Name:								
328-Corn, Soybeans								
329-Cons Till (No-Till)	SIG+	SLI+	NEG	SIG+	SIG+	SLI+	SLI-	SLI-
330-Contouring	MOD+	SLI+	NEG	NEG	SLI+	SLI+	SLI-	NEG
412-Waterway	NEG	SIG+	SIG+	NEG	SLI+	SLI+	NEG	NEG
386-Field Border	F	F	F	F	F	F	F	F
644-Wetland Habitat Mgmt.	SLI+	SLI+	NEG	SLI+	MOD+	NEG	MOD+	NEG
590-Nutrient Management	NEG	NEG	NEG	NEG	NEG	NEG	NEG	SIG+
Developed By/Date		AO Concurren	ce/Date			SO Concurrence	/Date	

Landuse Type Cropland	Resourc	e Setting No <u>.</u>	<u> </u>	102A	FIELD OFF	ICE		
Resource Setting: Soil – Loam (L) – Slope 6-12%.	This is a corn	-soybean rotation. R	esidue manage	ment is desire	d to protect th	is area from she	eet and rill
erosion. Topography is uniform a	nd contouring or t	erraces would	work. There are are	as of concentra	ted flow erosi	on. This is ad	ljacent to a wild	llife area.
	REFE	RENCE FROI	M CPPE AND RESO	URCE CONSI	DERATIONS	3		
Resource:		Animals						
	Pest	Habitat –	Population and					
	Management	Cover	Balance					
	D-3-c	E-1-b	E-2-a					
RMS # 2								
Practice # And Name:								
328-Corn, Soybeans								
329-Cons Till (No-Till)	SLI-	NEG	SLI+					
330-Contouring	NEG	NEG	SLI+					
412 W4	OI I	NEC	NEC					
412-Waterway	SLI+	NEG	NEG					
386-Field Border	F	F	F					
644-Wetland Habitat Mgmt.	MOD+	MOD+	SLI+					
044- w chang Haoitat Wighit.	WOD	WOD	SLI					
590-Nutrient Mgmt.	SLI+	SLI+	NEG					
		<u> </u>					<u> </u>	
Developed By/Date		AO Concurre	nce/Date		SO (Concurrence/D	ate	

Landuse Type Cropland	Reso	ource Setting No.	<u> </u>	MLRA <u>102A</u>	FIELD (OFFICE		
Resource Setting: Soil – Silt Lo erosion. Topography is uniform								
	R	EFERENCE FRO	M CPPE AN	ND RESOURCE	CONSIDERAT	IONS		
Resource:	Soil					Water		Plant
	Sheet & Rill Erosion	Concentrated Flow Erosion	Classic Gully	Compaction	Offsite Damage Deposition	Excess run- off/ Flooding	Excess Sub- Surface Moisture	Nutrient Management
	A-1-a	A-1-c	A-1-d	A-2-b	A-3-b	B-1-b	В1-с	D-3-b
RMS # 2 Practice # And Name:								
595-Pest Management	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG
342-Critical Area Plant	F	F	F	F	F	F	F	F
606-Subsurface Drain	F	F	F	F	F	F	F	F
393-Filter Strips	NEG	NEG	NEG	NEG	SIG+	NA	NA	NEG
Developed By/Date		AO Concurren	ce/Date			SO Concurrence/	Date	

Landuse Type Cropland	Resourc	e Setting No <u>.</u>	<u> </u>	102A	FIELD OFF	ICE		
Resource Setting: Soil – Loam erosion. Topography is uniforn								
crosion. Topography is uniform			M CPPE AND RESO				jacent to a wife	inic area.
Resource:	KEFE	Animals	WI CFFE AND KESO	OKCE CONS	SIDERATION	<u> </u>		
	Pest Management	Habitat – Cover	Population and Balance					
	D-3-c	E-1-b	E-2-a					
RMS # 2 Practice # And Name:								
595-Pest management	SIG+	MOD-	MOD-					
342-Critical Area Plant	F	F	F					
606-Subsurface Drain	F	F	F					
393-Filter Strips	NEG	MOD+	NEG					
Developed By/Date		AO Concurre	ence/Date		SO	Concurrence/D	Date	

Landuse Type Cropland	Res	ource Setting	No. 2 N	MLRA <u>102A</u>	FIELI	O OFFICE		
Resource Setting: Soil – Silt Lo farmed with a corn-soybean rota					as of concentra	nted flow erosion	n. Drainage is moder	ate. Area to be
	R	EFERENCE	FROM CPPE AN	ID RESOURCE	CONSIDER	ATIONS		
Resource:	Soil	· ·				Water	Air	Plants
	Sheet & Rill Erosion	Wind	Concentrated Flow	Compaction	Surface Pesticides	Surface Nutrients	Airborne Conveyance	Nutrient Mgmt.
	A-1-a	A-1-b	A-1-c	A-2-b	B-2-g	B-2-h	C-1-g	D-3-b
RMS # 1 Practice # And Name:								
328-Corn, Soybeans								
329-Cons Till (Ridge)	SIG+	SIG+	SLI+	SIG+	MOD+	MOD+	MOD+	SLI+
412-Waterway	NEG	NEG	SIG+	NEG	SLI+	SLI+	NEG	NA
590-Nutrient Management	NEG	NEG	NEG	NEG	NEG	SIG+	NEG	MOD+
595-Pesticide Management	SLI+	SLI+	NEG	NEG	MOD+	NEG	NEG	NA
645-Upland Wildlife Mgmt.	MOD+	MOD+	SLI+	MOD+	MOD+	MOD+	NEG	MOD+
393-Filter Strips	NEG	NEG	NEG	NEG	MOD+	MOD+	NEG	NEG
Developed By/Date		AO Conc	eurrence/Date	L	1	SO Concurrence	ce/Date	

UNITED STATES DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE

MINNESOTA TECHNICAL GUIDE SECTION III CONSERVATION MANAGEMENT SYSTEM (CMS) GUIDANCE DOCUMENT Resource Setting No. 2 MLRA 102A FIELD OFFICE

Landuse Type Cropland	Res	ource Setting	No <u>. 2</u>	MLRA 102	<u> </u>	ELD OFFICE		-
Resource Setting:								
Soil – Silt Loam (SiL) – Sl	ope 2-6% slo	pe. Moder	ate sloping l	land with are	as of concer	ntrated flow ero	sion. Drainage	e is moderate.
Area to be farmed with a co	rn-soybean i	rotation. The	ere is an inte	erest in Wild	life enhance	ement.		
			ROM CPPE A	ND RESOUR	CE CONSIDE	RATIONS		
Resource:	Plants	Animals						
	Pests	Food	Cover					
	D-3-c	E-1-a	E-1-b					
RMS # 1 Practice # And Name:								
328-Corn, Soybeans								
329-Cons Till (Ridge)	SLI-	MOD+	SLI+					
412-Waterway	SLI+	SLI+	MOD+					
590-Nutrient Management	SLI+	MOD+	SLI+					
595-Pesticide Management	SIG+	SIG-	MOD-					
645-Upland Wildlife Mgmt.	MOD+	SIG+	SIG+					
393-Filter Strips	NEG	SLI+	MOD+					
	1	1	1	I	1			
Developed By/Date		AO Conc	urrence/Date_			SO Concurre	nce/Date	

UNITED STATES DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE

MINNESOTA TECHNICAL GUIDE SECTION III CONSERVATION MANAGEMENT SYSTEM (CMS) GUIDANCE DOCUMENT Resource Setting No. 1 MLRA 103 FIELD OFFICE

Landuse Type Cropiand	Resot	irce Setting No.	I MLR	A 103	FIELD OF	FICE		
Resource Setting: The major soils at that have abrupt slope changes. The cropping sequence is Corn Soybear acre per year. Ephemeral gullies extreams, and ditches. Soil wetness levels and manage nutrients that are	e shoulders and with moldbookist in the drair inhibits timely erunning off o	d back slopes of the desired plowing in the large ways and for field operations.	he slopes have be fall on corn resot-slope areas. Cornel The landowner ncrease the amo	een eroded so idue and fall change compaction is possible objectives are unt of upland v	that the subsoint isel plowing operesent. Pesticuto raise row craise row craise habitat	I is exposed and how soybean resides ides and nutrients ops for an economic.	ave low organic m . Sheet and rill ero have been detected	atter. The osion is 20 ton per d in area lakes,
Resource:	Soil	EFERENCE FRO	JM CPPE AND	RESOURCE (CONSIDERA	Water		
resource.	Sheet & Rill A-1-a	Concentrated Flow A-1-c	Compaction A-2-a	Tilth Infiltration Organic A-2-b	Offsite Damage A-3-b	Excess Subsurface B-1-c	Surface Pesticides B-2-g	Surface Nutrient B-2-h
RMS # 2	7114	7110	71 2 u	11 2 0	71 5 0	Вте	D 2 g	<i>B 2</i> II
Practice # And Name:	<u> </u>							
328-Conservation Cropping Sequen	nce Corn – Soy	beans – Corn, So	ybeans will be d	lrilled.				
329-Cons Till System Mulch Till No-till	MOD+ SIG+	SLI+ SIG+	MOD+ MOD+	MOD+ MOD+	MOD+ MOD+	SLI+ SLI+	SLI+ MOD+	SLI+ MOD+
606-Subsurface Drain	NEG	SLI+	MOD+	SLI+	NEG	SIG+	MOD-	MOD-
638 Water & Sediment Basin	NEG	SIG+	NEG	SLI+	MOD+	SLI+	SLI+	MOD+
645-Upland Wildlife Mgmt.	SLI+	SLI+	SLI+	MOD+	SLI+	SLI+	MOD+	MOD+
590-Nutrient Management	NEG	NEG	NEG	NEG	NEG	NEG	NEG	SIG+
595-Pest Management	NEG	NEG	NEG	NEG	NEG	NEG	SIG+	NEG
393 Filter Strip	NEG	NEG	NEG	NEG	MOD+	NA	MOD+	MOD+
Developed By/Date		_ AO Concurrence	ce/Date		S	O Concurrence/Da	nte	

Landuse Type <u>Cropland</u>	Res	ource Setting	No <u>. 1</u>	MLRA <u>103</u>	FIEL	D OFFICE	
Resource Setting: The major soils a slopes that have abrupt slope chang The cropping sequence is Corn Soy 20 ton per acre per year. Ephemera in area lakes, streams, and ditches. erosion to tolerable levels and management.	es. The shounders with more of the second with more second we the second we second with the second with the second we second with the second w	olders and bacoldboard plot in the drain inhibits time that are runn	ck slopes of the wing in the fall of age ways and for ely field operation	slopes have been corn residued to t-slope areasons. The land to increase and to increase the slope should be a slope to the slope slope to the slope slope to the slope slope to the slope slope slope slope to the slope slop	een eroded so the and fall chisel so Compaction in the compaction in the compactive ease the amount	and the subsoil is export plowing on soybean spresent. Pesticides sare to raise row croof upland wildlife has	osed and have low organic matter. resides. Sheet and rill erosion is and nutrients have been detected ops for an economic return, control
Resource:	Water	Air	Plants	TESSER	Plants	21110115	
	Surface Turbidity B-2-i	Airborne Drift C-1-h	Establish & Harvest D-3-a	Food E-1-a	Cover or Shelter E-1-b	Population & Balance	
RMS # 1	D 2 1	C-1-II	D 3 a	Liu	Lio	L Z u	
Practice # And Name:							
328-Conservation Cropping Sequer	nce Corn – So	ybeans – Co	rn, Soybeans wi	ill be drilled.			
329-Cons Till System Mulch Till No-till	MOD+ SIG+	NEG NEG	NEG SLI+	MOD+ MOD+	SLI+ MOD+	SLI+ SLI+	
606-Subsurface Drain	NEGV	NA	SIG+	MOD-	MOD-	MOD-	
638 Water & Sediment Basin	SIG+	NEG	SLI+	SLI+	SLI+	SLI+	
645-Upland Wildlife Mgmt.	SLI+	NEG	MOD+	SIG+	SIG+	SIG+	
590-Nutrient Management	NEG	NEG	NEG	SLI+	SLI+	SLI+	
595-Pest Management	NEG	MOD+	SLI+	SLI-	SLI-	SLI-	
393-Filter Strip	SLI+	NEG	NEG	SLI+	MOD+	NEG	
Developed By/Date		AO Con	currence/Date			SO Concurrence	:/Date

Conservation Management Systems Worksheet

Considerations		Soil				Water		
Resource Problems	Sheet & Rill	Concentrated Flow	Tilth Organic	Compaction	Offsite Damage	Excess Subsurface	Surface Pesticides	Surface Nutrient
CMS Options	A-1-a	A-1-c	A-2-a	A-2-b	A-3-b	B-1-c	B-2-g	B-2-h
328-Conservation Cropping Sequen	nce Corn – So	ybeans – Corn, So	ybeans will	be drilled.				
329-Cons Till System	T							
Mulch Till	MOD+	SLI+	MOD+	MOD+	MOD+	SLI-	SLI+	SLI+
No-till	SIG+	SIG+	MOD+	MOD+	MOD+	SLI-	MOD+	MOD+
606-Subsurface Drain	NEG	SLI+	SLI+	MOD+	NEG	SIG+	MOD-	MOD-
638 Water & Sediment Basin	NEG	SIG+	SLI+	NEG	MOD+	SLI-	SLI+	MOD+
645-Upland Wildlife Mgmt.	SLI+	SLI+	MOD+	SLI+	SLI+	SLI+	MOD+	MOD+
590-Nutrient Management	NEG	NEG	NEG	NEG	NEG	NEG	NEG	SIG+
595-Pest Management	NEG	NEG	NEG	NEG	NEG	NEG	SIG+	NEG
393-Filter Strip	NEG	NEG	NEG	NEG	MOD+	NA	MOD+	MOD+

Conservation Management Systems Worksheet

Resource: CROPLAND MLRA 10	3 Setting #1						
Considerations	Water	Air	Plants	Animals			
Resource Problems	Surface Turbidity	Airborne	Establish & Harvest	Food	Cover or Shelter	Population & Balance	
CMS Options	B-2-i	C-1-h	D-3-a	E-1-a	E-1-b	E-2-a	
328-Conservation Cropping Sequen	nce Corn – So	ybeans – Corn	, Soybeans will l	be drilled.			
329-Cons Till System Mulch Till No-till	NEG NEG	NEG NEG	NEG SLI+	MOD+ MOD+	SLI+ MOD+	SLI+ SLI+	
606-Subsurface Drain	NEG	NA	SIG+	MOD-	MOD-	MOD-	
638 Water & Sediment Basin	SIG+	NEG	SLI-	SLI+	SLI+	SLI+	
645-Upland Wildlife Mgmt.	SLI+	NEG	MOD+	SIG+	SIG+	SIG+	
590-Nutrient Management	NEG	NEG	NEG	SLI+	SLI+	SLI+	
595-Pest Management	NEG	MOD+	SLI+	SLI-	SLI-	SLI-	
393-Filter Strips	SLI+	NEG	NEG	SLI+	MOD+	NEG	

Conservation Management Systems Worksheet

Considerations			Soil				Water		
	Resource	Sheet & Rill	Concentrated Flow	Tilth Organic	Compaction	Offsite Damage	Excess Subsurface	Surface Pesticides	Surface Nutrient
	Problems	A-1-a	A-1-c	A-2-a	A-2-b	A-3-b	B-1-c	B-2-g	B-2-h
328-Conservation Croppi 329-Cons Till System	ng Sequen	ce Corn – So	ybeans – Corn, So	ybeans will	be drilled.		· 	T	
Mulch Till No-till		MOD+ SIG+	SLI+ SIG+	MOD+ MOD+	MOD+ MOD+	MOD+ MOD+	SLI- SLI-	SLI+ MOD+	SLI+ MOD+
330-Contouring		SIG+	SLI+	SLI+	NEG	SLI+	SLI-	SLI+	SIG+
344-Crop Residue Use		SLI+	SLI+	NEG	NEG	SLI+	NEG	NEG	NEG
362-Diversion		NEG	SIG+	MOD+	NEG	SLI+	NEG	SLI+	MOD+
412-Grassed Waterway		NEG	SIG+	NEG	NEG	SLI+	NEG	SLI+	MOD+
600s-Terrace		MOD+	SIG+	SLI+	NEG	MOD+	SLI-	SLI+	MOD+
606-Subsurface Drain		NEG	NEG	SLI+	MOD+	NEG	SIG+	MOD-	MOD-
638-Water & Sediment B	asin	NEG	SIG+	SLI+	NEG	MOD+	SLI-	SLI+	MOD+
645-Upland Wildlife Mgr	nt.	SLI+	SLI+	MOD+	SLI+	SLI+	SLI+	MOD+	MOD+
590-Nutrient Mgmt.		NEG	NEG	NEG	NEG	NEG	NEG	NEG	SIG+
595-Pest Management		NEG	NEG	NEG	NEG	NEG	NEG	SIG+	NEG
393-Filter Strip		NEG	NEG	NEG	NEG	MOD+	NA	MOD+	MOD+

Specific Practice Effects Worksheet

Considerations	Water	Air	Plants	Animals					
Resource Problems	Est. Turbid.	Airborne Drift	Establish & Harvest	Food	Cover or Shelter	Population & Balance			
CMS Options	B-2-i	C-1-h	D-3-a	E-1-a	E-1-b	E-2-a			
328-Conservation Cropping Sequen	ce Corn – Sc	ybeans – Cor	n, Soybeans wi	ll be drilled.					
329-Cons Till System Mulch Till No-till 330-Contouring	NEG NEG SLI+	NEG NEG NEG	NEG SLI+ NEG	MOD+ MOD+ NEG	SLI+ MOD+ NEG	SLI+ SLI+ NA			
344-Crop Residue Use	SLI+	NA	SLI+	SLI+	SLI+	MOD+			
362-Diversion	SLI+	NA	SIG+	SLI+	SLI+	SLI+			
412-Grassed Waterways	SLI+	NEG	SLI+	SLI+	SLI+	SLI+			
600s-Terrace	SLI+	NEG	SLI-	SLI+	SLI+	NEG			
606-Subsurface Drain	NEG	NA	SIG+	MOD-	MOD-	MOD-			
638-Water & Sediment Basin	SIG+	NEG	SLI-	SLI+	SLI+	SLI+			
645-Upland Wildlife Mgmt.	SLI+	NEG	MOD+	SIG+	SIG+	SIG+			
590-Nutrient Mgmt.	NEG	NEG	NEG	SLI+	SLI+	SLI+			
595-Pest Management	NEG	MOD+	SLI+	SLI-	SLI-	SLI-			
393-Filter Strip	SLI+	NEG	NEG	SLI+	MOD+	NEG			

UNITED STATES DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE

MINNESOTA TECHNICAL GUIDE SECTION III CONSERVATION MANAGEMENT SYSTEM (CMS) GUIDANCE DOCUMENT Landuse Type Cropland Resource Setting No. 2 MLRA 103 FIELD OFFICE

Landuse Type Cropiand	Keso	ource Setting No) <u>. 2</u> IVI	LKA <u>103</u>	FIELD (FFICE		
Resource Setting: The major soils at that have abrupt slope changes. The Corn - Soybean Grain seeded – Howaste is being improperly applied aways. Pesticide and nutrients have objectives are to raise crops for an objective same to rai	e shoulders' (ay-Hay-Hay) and nutrients been detected	slopes have beer with fall moldb are running of the d in area lakes, s	n eroded so that coard plowing one field. Sheet a stream, and drain	the subsoil is f the last year and rill erosion nage ditches.	exposed and have of hayland and con is at 12 tons per Soil wetness inhome.	re low organic norn residue with a cre per year. ibits timely field	natter. The cropping soybeans fall chise Ephemeral gullies doperations. The least source of the least sour	ng sequence is Cor sel plowed. Anima exist in the drain landowners
pesticides, and increase the amount			loss tolerable le	vers and mana	ige the manare is	or matricile variae	, and reduce ranon	of nutrent und
,			OM CPPE AN	D RESOURC	E CONSIDERA	TIONS		
Resource:		Soil				Water		
	Sheet & Rill A-1-1	Concentrated Flow A-1-c	Compaction A-2-b	Offsite Damage A-3-b	Excess Subsurface B-1-c	Surface Pesticide B-2-g	Surface Nutrient B-2-h	Surface Turbidity B-2-i
RMS # 1 Practice # And Name:							<i>D 2</i> II	
328-Conservation Cropping Sequen						·		
329-Cons Till System Mulch Till No-till	SIG+	SLI	MOD+	SIG+	SLI+	SLI+	SLI+	SLI+
412-Grassed Waterway	NEG	SIG+	NEG	SLI+	NEG	SLI+	SLI+	SLI+
606-Subsurface Drain	NEG	NEG	SIG+	SLI+	SIG+	SLI-	SLI-	NEG
633-Waste Utilization	SLI+	NEG	SLI+	SLI+	NEG	SLI+	SIG+	SLI+
645-Upland Wildlife Mgmt.	SLI+	SLI+	MOD+	SLI+	SLI+	MOD+	MOD+	SLI+
590-Nutrient Management	NEG	NEG	NEG	NEG	NEG	NEG	SIG+	NEG
595-Pest Management	NEG	NEG	NEG	NEG	NEG	SIG+	NEG	NEG
393-Filter Strip	NEG	NEG	NEG	MOD+	NA	MOD+	MOD+	SLI+
Developed By/Date	<u>I</u>	AO Concurr	rence/Date_	1		SO Concurrence	ee/Date	

Landuse Type Cropland	Reso	urce Setting No	M	LRA <u>103</u>	FIELD OFFICE		
have abrupt slope changes. The sl Soybean Grain seeded – Hay-Hay- improperly applied and nutrients a nutrients have been detected in are	houlders' slope Hay, with fall are running of to a lakes, stream	es have been erod moldboard plowi the field. Sheet a n, and drainage di	ed so that the ng of the last nd rill erosion tches. Soil we	subsoil is exposed year of hayland ar a is at 12 tons per etness inhibits tim	d and have low organic m nd corn residue with soybe acre per year. Ephemera ely field operations. The	Slopes are irregular with short steep atter. The cropping sequence is Co eans fall chisel plowed. Animal wa I gullies exist in the drain ways. P landowners objectives are to raise ent and pesticides, and increase the	orn – Corn - aste is being esticide and crops for an
	_	REFERENCE F	ROM CPPE A	AND RESOURCE	CONSIDERATIONS		
Resource:	Air	Plants	Animals				
	Airborne	Establish &	Food	Cover or	Population		
	Drift	Harvest		Shelter	& Balance		
	C-1-h	D-3-a	E-1-a	E-1-b	E-2-a		
RMS # 1 Practice # And Name:							
328-Conservation Cropping Seque	nce Corn – Co	rn, Soybeans Gra	in seeded – H	ay – Hay – Hay so	ybeans wide row.		
329-Cons Till System	NEG	NEG	MOD+	SLI+	SLI+		
412-Grassed Waterway	NEG	SLI+	SLI+	SLI+	SLI+		
606-Subsurface Drain	NEG	SIG+	MOD-	MOD-	MOD-		
633-Waste Utilization	SIG+	MOD+	SLI+	SLI+	SLI+		
645-Upland Wildlife Mgmt.	NEG	MOD+	SIG+	SIG+	SIG+		
590-Nutrient Management	NEG	MOD+	SLI+	SLI+	SLI+		
595-Pest Management	MOD+	SIG+	SLI-	SLI-	SLI-		
393-Filter Strip	NEG	NEG	SLI+	MOD+	NEG		
Davidanad Py/Data		AO Conqueros	naa/Data		SO Conquero	nnaa/Data	

Conservation Management System Options Worksheets

Resource: CROPLAND MLRA 10	3 Setting #2				Constitution	ition Manageme	ar system open	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Considerations	Soil				Water				
Resource Problems	Sheet & Rill	Concentrated Flow	Compaction	Offsite Damage	Excess Subsurface	Surface Pesticides	Surface Nutrients	Surface Turbidity	
CMS Options	A-1-a	A-1-c	A-2-b	A-3-b	B-1-c	B-2-g	B-2-h	B-2-I	
328-Conservation Cropping Sequen	ce		•						
329-Cons Tillage Mulch Tillage	SIG+	SLI+	MOD+	SIG+	SLI+	SLI+	SLI+	SLI+	
412-Grassed Waterway	NEG	SIG+	NEG	SLI+	NEG	SLI+	SLI+	SLI+	
606-Subsurface Drain	NEG	NEG	SIG+	SLI+	SIG+	SLI-	SLI-	NEG	
633-Waste Utilization	SLI+	NEG	SLI+	SLI+	NEG	SLI+	SIG+	SLI+	
645-Upland Wildlife Management	SLI+	SLI+	MOD+	SLI+	SLI+	MOD+	MOD+	SLI+	
590-Nutrient Management	NEG	NEG	NEG	NEG	NEG	NEG	SIG+	NEG	
595-Pest Management	NEG	NEG	NEG	NEG	NEG	SIG+	NEG	NEG	
393-Filter Strip	NEG	NEG	NEG	MOD+	NA	MOD+	MOD+	SLI+	

D CDODI AND MIDA 10	2 0 -44: 1/2				Conservation Management System Options worksneets
Resource: CROPLAND MLRA 10.	3 Setting #2				
Considerations	Air	Plants			Plants
_	Airborne	Establish &	Food	Cover or	Population &
Resource Problems	Drift	Harvest		Shelter	Balance
CMS Options	C-1-h	D-1-a	E-1-a	E-1-b	E-2-a
328-Conservation Cropping Sequen	ce Corn – Soy	beans – Grain	seeded – Hay -	- Hay – Hay.	
220 Cara Tillaca		T	 	T	<u></u>
329-Cons Tillage Mulch Tillage	NEG	NEG	MOD+	SLI+	SLI+
	1,20	1,20	1,102		
412-Grassed Waterway	NEG	SLI+	SLI+	SLI+	SLI+
606-Subsurface Drain	NEG	SIG+	MOD-	MOD-	MOD-
000-Subsurface Drain	NEG	SIG	MOD-	WOD-	WOD-
633-Waste Utilization	SIG+	MOD+	SLI+	SLI+	SLI+
(45 Haland Wildlife Management	NEG	MOD+	SIG+	SIG+	SIG+
645-Upland Wildlife Management	NEG	MOD+	SIG+	SIG+	SIG+
590-Nutrient Management	NEG	MOD+	SLI+	SLI+	SLI+
	1.405	ara.	OT 1	G. J.	O. I.
595-Pest Management	MOD+	SIG+	SLI-	SLI-	SLI-
393-Filter Strip	NEG	NEG	SLI+	MOD+	NEG

Considerations	03 Setting #2	Soil		Water				
Considerations		5011		vv ater				
Resource Problems		Conc. Flow	Compaction	Office Damage	Excess Subsurface	Surface Pesticides	Surface Nutrients	Surface Turbid
CMS Options	A-1-a	A-1-c	A-2-b	A-3-b	B-1-c	B-2-g	B-2-h	B-2-i
328-Conservation Cropping Seque	nce Corn – So	ybeans – Corn,	Soybeans-Grain	Seeded-Hay-H	ay-Hay	.I	4	
329-Cons Till System Mulch Tillage	SIG+	SLI+	MOD+	SIG+	SLI+	SLI+	SLI+	SLI+
330-Contouring	SIG+	SLI+	NEG	SLI+	SLI+	SLI+	SLI+	SLI+
344-Crop Residue Use	MOD+	SLI+	NEG	SLI+	NEG	NEG	NEG	SLI+
362-Diversion	NEG	SIG+	NEG	MOD+	NEG	SLI+	SLI+	SLI+
412-Grassed Waterway	NEG	SIG+	NEG	MOD+	NEG	SLI+	SLI+	SLI+
585-Contour Strips	SIG+	SLI+	NEG	SIG+	MOD-	SLI+	SLI+	SLI+
600s-Terrace	MOD+	SIG+	NEG	MOD+	SLI+	MOD+	MOD+	SIG+
606-Subsurface Drain	NEG	NEG	SIG+	SLI+	SIG+	SLI-	SLI-	NEG
633-Waste Utilization	SLI+	NEG	SLI+	SLI+	NEG	SLI+	SIG+	SLI+
638-Water & Sediment Basin	NEG	SIG+	NEG	MOD+	SLI-	MOD+	MOD+	MOD+
645a-Upland Wildlife Mgmt.	SLI+	SLI+	MOD+	SLI+	SLI+	MOD+	MOD+	SLI+
590-Nutrient Mgmt.	NEG	NEG	NEG	NEG	NEG	NEG	SIG+	NEG
595-Pest Management	NEG	NEG	NEG	NEG	NEG	SIG+	NEG	NEG
393-Filter Strip	NEG	NEG	NEG	MOD+	NA	MOD+	MOD+	SLI+

Resource: CROPLAND MLRA 103 Considerations Resource	Air	Plants		A			
Resource				Animals			
Resource					T =	Ţ	
	Airborne	Establish &	Food	Cover or	Population		
Problems	Drift	Harvest		Shelter	& Balance		
CMS Options	C-1-h	D-3-a	E-1-a	E-1-b	E-2-a		
328-Conservation Cropping Sequence							
329-Cons Till System	NEG	NEG	MOD+	SLI+	SLI+		
Mulch Tillage							
330-Contouring	NEG	NEG	NEG	NEG	NA		
-							
334-Crop Residue Use	NA	SLI+	SLI+	SLI+	MOD+		
•							
362-Diversion	NA	SIG+	SLI+	SLI+	SLI+		
412-Grassed Waterway	NEG	SLI+	SLI+	SLI+	SLI+		
112 Grassea Water Way	TVEG	SEI	SEI*	SEL	SEI ·		
585-Contour Strips	NEG	SLI-	SLI+	MOD+	SLI+		
363-Contour Surps	NLO	SLI-	SLI	WIOD	SLI		
600s-Terraces	NEG	SLI-	SLI+	SLI+	NEG		
ooos-remaces	NEG	SL1-	SLI	SLI	NEG		
606-Subsurface Drain	NEG	SIG+	MOD-	MOD-	MOD-		
606-Subsurface Drain	NEG	SIGT	MOD-	MOD-	MOD-		
(22 W + 11/1' - 1'	GIG :	MOD	GI I	OI I	CII		
633-Waste Utilization	SIG+	MOD+	SLI+	SLI+	SLI+		
		1.75					
638-Water & Sediment Basin	NEG	NEG	SLI+	SLI+	SLI+		
645-Upland Wildlife Mgmt.	NEG	MOD+	SIG+	SIG+	SIG+		
590-Nutrient Mgmt.	NEG	MOD+	SLI+	SLI+	SLI+		
595-Pest Management	MOD+	SIG+	SLI-	SLI-	SLI-		
-							
393-Filter Strip	NEG	NEG	SLI+	MOD+	NEG		
1							

Landuse Type Cropland	Res	source Setting	g No <u>. 3</u>	MLRA <u>103</u>	FIELD OFF	ICE		
Resource Setting: Soil – Silt	Loam (L)	- Slope 2-6	5%. The area	is moderately s	slopping and su	bject to concer	trated flow eros	ion as well as
sheet and rill erosion. The ar								
would be taken for silage. The								
Areas not taken for silage wo	_					_		ose years.
Thous not taken for shage we	dia be illa			AND RESOURCE			oc used.	
Resource:	Soil	TELL ETTEL VE	<u>ETROM CITE</u>	Water	2 CONSIDERATI	10115		Air
	Sheet &	Conc.	Soil	Ground Water	Surface	Surface	Surface	Airborne
	Rill	Flow	Compaction	Contamination.	Contamination	Contamination	Contamination	Chemical
		Erosion	1	Nutrients &	Pesticides	Pesticides	Pathogen	Drift
				Organics		Nutrients &		
						Organics		
	A-1-a	A-1-c	A-2-b	B-2-b	B-2-g	B-2-h	B-2-n	C-1-h
RMS # 1								
Practice # And Name:								
328-Continuous Corn								
329-Cons. Till (Mulch)	SIG+	SLI	MOD+	NEG	SLI+	MOD+	NEG	SLI-
412-Waterway	NEG	SIG+	NEG	SLI-	MOD+	MOD+	NEG	NEG
606-Subsurface Drain	F	F	F	F	F	F	F	F
590-Nutrient Management	NA	NA	NEG	SIG+	NEG	SIG+	NEG	NEG
595-Pest Management	NA	NA	NEG	NEG	MOD+	NEG	NEG	MOD+
393-1 est Management	INA	INA	NEG	NEG	MOD	NEG	NEG	MOD
633-Waste Utilization	NA	NA	SLI+	SLI-	MOD+	MOD+	MOD+	NEG
	1	1	1	1	1		1	1
Developed By/Date		AO Con	currence/Date		SC	Concurrence/Dat	e	

Landuse Type Cropland	Res	source Setting No	<u>. 3</u> M	LRA <u>103</u>	FIELD OFFICI	Ľ		
Resource Setting: Soil – Silt	Loam (SiI	(1) – Slope 2-6	%. The area	is moderately s	loping and sub	iect to concenti	rated flow erosi	ion as well as
sheet and rill erosion. The are								
would be taken for silage. The								
	_					-	_	se years.
Areas not taken for silage wor	uld be mul						e used.	
	T = 11	REFERENCE I	ROM CPPE A	ND RESOURCE (CONSIDERATIO	NS		Т
Resource:	Soil	T	T	Water	T	T	T	Air
	Sheet &	Concentrated	Soil	Ground Water	Surface	Surface	Surface	Airborne
	Rill	Flow Erosion	Compaction	Contamination	Contamination	Contamination	Contamination	Chemical
	Erosion			Nutrients &	Pesticides	Pesticides	Pathogen	Drift
				Organics		Nutrients &		
		A-1-c				Organics		
	A-1-a		A-2-b	B-2-b	B-2-g	B-2-h	B-2-n	C-1-h
RMS # 1								
Practice # And Name:	<u> </u>							
645-Upland Wildlife	MOD+	SLI+	MOD+	SLI+	MOD+	MOD+	SLI+	NEG
Management								
393-Filter Strip	NEG	NEG	NEG	MOD+	MOD+	MOD+	NEG	NEG
				·				
	_							
	ļ			·				
								<u> </u>
Developed By/Date		AO Concurr	ence/Date		SO C	oncurrence/Date		
z t troped z j, z dte		110 001100111			50 C			

Landuse Type Cropland	Resourc	e Setting No <u>. </u>	3 MLRA	103	FIELD OFFICE			
Resource Setting: Soil – Silt	Loam (SiL) –	Slope 2-6 %.	The area is m	oderately slo	pping and sub	ject to concen	trated flo	w erosion as
well as sheet and rill erosion.	The area wou	ld be cropped	to continuous	corn with a	small area of a	alfalfa. Appro	ximately	1/3 of the
corn acres would be taken for	silage. The s	ilage would be	e taken from th	ne flatter land	d and would no	ot have residue	e requirer	nents during
those years. Areas not taken t	for silage wou	ld be mulch ti	lled (329). Th	is is part of a	a livestock ope	eration. Insect	cicides wi	ll be used.
			CPPE AND RESO	OURCE CONS	IDERATIONS			
Resource:	Plants	Animals						
	Nutrient	Pest	Habitat Food	Habitat				
	Management	Management		Cover or				
				Shelter				
	D-3-b	D-3-c	E-1-a	E-1-b				
RMS # 1				-				
Practice # And Name:								
328-Continuous Corn								
329-Cons. Till (Mulch)	NEG	NEG	MOD+	SLI+				
412-Waterway	NA	NEG	SLI+	MOD+				
606-Subsurface Drain	F	F	F	F				
590-Nutrient Management	SIG+	SLI+	MOD+	SLI+				
595-Pest Management	NA	SIG+	SIG-	MOD-				
633-Waste Utilization	SIG+	SLI-	MOD+	MOD+				
		<u> </u>	<u> </u>	<u> </u>				<u> </u>
Developed By/Date	·	AO Concurrence	/Date		SO Co	ncurrence/Date_		

Landuse Type Cropland	Resource S	Setting No. 3	MLRA <u>1</u>	03 FIEL	D OFFICE			
Resource Setting: Soil – Silt	Loam (SiL) – Sl	ope 2-6 %. Tl	he area is mod	lerately sloping	and subjec	t to concen	trated flow e	rosion as
well as sheet and rill erosion.	The area would	be cropped to	continuous c	orn with a smal	l area of alt	falfa. Appr	oximately 1/	3 of the
corn acres would be taken for	silage. The sila	ge would be ta	aken from the	flatter land and	l would not	have residu	ie requireme	nts during
those years. Areas not taken t			/			ation. Insec	cticides will	be used.
			PE AND RESOU	URCE CONSIDE	RATIONS			
Resource:	Plants	Animals						
	Nutrient	Pest	Habitat	Habitat Cover				
	Management	Management	Food	or Shelter				
	D-3-b	D-3-c	E-1-a	E-1-b				
RMS # 1								
Practice # And Name:								
645-Upland Wildlife Management	MOD+	MOD+	SIG+	SIG+				
393-Filter Strip	NEG	NEG	SLI+	MOD+				
<u>-</u>								
·····								
	<u> </u>		<u> </u>					
Developed By/Date	A(O Concurrence/D	ate		SO Conc	urrence/Date_		

Developed By/Date

MINNESOTA TECHNICAL GUIDE SECTION III CONSERVATION MANAGEMENT SYSTEM (CMS) GUIDANCE DOCUMENT

Landuse Type <u>Cropland</u>	Resour	rce Setting No <u>. </u>	1 MLF	RA <u>104</u>	_ FIELD OF	FICE		
Resource Setting: The major so wetness inhibits timely field operesidue fall chisel plowed. Sheet contributes nutrients and sedime erosion to tolerable levels and mand improve upland wildlife half	erations. Tet and rill each loading nanage nut bitat.	The cropping serosion is 12 to area stream	sequence is coons per acre pens. The landutrol cost of in	orn soybeans oer year with owner object oputs that are	s with the cor numerous eptives are to rate running off	n being fall mo ohemeral gullionise crops for a the site, and to	oldboard plowers present. Surfan economic retr	d and soybean face runoff urn, control
Resource:	KI	Soil	JM CPPE AND	RESOURCE	CONSIDERAT	Water		
resource.	Sheet & Rill A-1-a	Concentrated Flow A-1-c	Compaction A-2-b	Offsite Damage A-3-b	Excess Subsurface B-1-c	Surface Pesticide B-2-g	Surface Nutrient B-2-h	Surface Turbidity B-2-i
RMS # 1 Practice # And Name:								
328 - Conservation Cropping Sequenc		~	ins will be drille					-
329 – Conservation Tillage (Mulch)	SIG+	SLI+	MOD+	MOD+	SLI-	SLI+	MOD+	MOD+
330 – Contouring	MOD+	SLI+	NEG	SLI+	SLI-	MOD+	MOD+	MOD+
600s – Terraces	MOD+	SIG+	NEG	MOD+	SLI-	MOD+	MOD+	MOD+
606 - Subsurface Drain	NEG	SLI+	MOD+	NEG	SIG+	MOD-	MOD-	NEG
645 - Upland Wildlife Mgmt.	SLI+	SLI+	MOD+	SLI+	NEG	MOD+	MOD+	MOD+
590 - Nutrient Management	NEG	NEG	NEG	NEG	NEG	NEG	SIG+	NEG
595c - Pest Management	NEG	NEG	NEG	NEG	NEG	SIG+	NEG	NEG
393 – Filter Strips	NEG	NEG	NEG	SIG +	N/A	MOD+	MOD+	SLI+

SO Concurrence/Date

AO Concurrence/Date

MINNESOTA TECHNICAL GUIDE SECTION III CONSERVATION MANAGEMENT SYSTEM (CMS) GUIDANCE DOCUMENT Paraguras Setting No. 1 MLPA 104 FIELD OFFICE

Landuse Type <u>Cropland</u>	Res	ource Setting	g No <u>. 1</u>	_ MLRA <u>104</u>	FIELI	O OFFICE		
Resource Setting: The major so wetness inhibits timely field soybean residue fall chisel p Surface runoff contributes n economic return, control ero provide subsurface drainage	l operations. blowed. She autrients and osion to toler e, and improve	The cropet and rill sediment rable level we upland	ping sequen erosion is 12 loading to a s and manag wildlife hab	ce is corn soy 2 tons per acre rea streams. The nutrients and itat.	beans with the e per year with The landowne and control cost	e corn being fan numerous ep r objectives ar t of inputs that	all moldboard pohemeral gullies te to raise crops	olowed and s present. s for an
				AND RESOUR	CE CONSIDER.	ATIONS		
Resource:	Air	Plant	Animals			_		1
	Airborne Drift	Est. & Harvest	Food	Cover or Shelter	Population & Balance			
	C-1-h	D-3-a	E-1-a	E-1-b	E-2-a			
RMS # 1 Practice # And Name:								
328-Conservation Cropping Sequ	ence Corn – Se	oybeans, Soy	beans will be	drilled.				
329-Cons Tillage Mulch Tillage	NEG	NEG	MOD+	SLI+	SLI+			
330-Contouring	NEG	NEG	NEG	NEG	NA			
600s-Terraces	NEG	SLI-	SLI+	SLI+	NEG			
606-Subsurface Drain	NA	SIG+	MOD-	MOD-	MOD-			
645-Upland Wildlife Mgmt.	NEG	SLI+	SIG+	SIG+	SIG+			
590b Nutrient Management	NEG	NEG	SLI+	SLI+	SLI+			
595c Pest Management	MOD+	SLI+	SLI-	SLI-	SLI-			
393- Filter Strips	NEG	NEG	SLI+	MOD+	NEG			
Developed By/Date		AO Cor	currence/Date		<u> </u>	SO Concurre	nce/Date	

Sheet & Rill A-1-a	Soil Concentrated Flow	Compaction			Water				
Rill									
A-1-a	1 10 W	Compaction	Office Damage	Excess Subsurface	Surface Pesticides	Surface Nutrients	Surface Turbidity		
	A-1-c	A-2-b	A-3-b	B-1-c	B-2-g	B-2-h	B-2-I		
e Corn – Soyl	beans – Corn, Soy	ybeans drilled							
SIG+	SLI+	MOD+	MOD+	SLI-	SLI+	MOD+	MOD+		
MOD+	SLI+	NEG	SLI+	SLI+	MOD+	MOD+	MOD+		
MOD+	SIG+	NEG	MOD+	SLI-	MOD+	MOD+	MOD+		
NEG	SLI+	MOD+	NEG	SIG+	MOD-	MOD-	NEG		
SLI+	SLI+	MOD+	SLI+	NEG	MOD+	MOD+	MOD+		
NEG	NEG	NEG	NEG	NEG	NEG	SIG+	NEG		
NEG	NEG	NEG	NEG	NEG	SIG+	NEG	NEG		
NEG	NEG	NEG	SIG+	N/A	MOD+	MOD+	SLI+		
	SIG+ MOD+ MOD+ NEG SLI+ NEG NEG	SIG+ SLI+ MOD+ SLI+ MOD+ SIG+ NEG SLI+ SLI+ SLI+ NEG NEG NEG NEG	MOD+ SLI+ NEG MOD+ SIG+ NEG NEG SLI+ MOD+ SLI+ SLI+ MOD+ NEG NEG NEG NEG NEG NEG NEG	SIG+ SLI+ MOD+ MOD+ MOD+ SLI+ NEG SLI+ MOD+ SIG+ NEG MOD+ NEG SLI+ MOD+ NEG SLI+ MOD+ SLI+ NEG NEG NEG NEG NEG NEG NEG NEG	SIG+ SLI+ MOD+ MOD+ SLI- MOD+ SLI+ NEG SLI+ SLI+ MOD+ SIG+ NEG MOD+ SLI- NEG SLI+ MOD+ NEG SIG+ SLI+ MOD+ NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG	SIG+ SLI+ MOD+ MOD+ SLI- SLI+ MOD+ SLI+ NEG SLI+ MOD+ MOD+ SIG+ MOD+ MOD+ NEG SLI+ MOD+ NEG SIG+ MOD- SLI+ SLI+ MOD+ NEG MOD+ NEG MOD+ NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG SIG+	SIG+ SLI+ MOD+ MOD+ SLI- SLI+ MOD+ MOD+ SLI+ NEG SLI+ MOD+ MOD+ MOD+ MOD+ SIG+ NEG NEG NEG MOD- MOD- NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG		

Resource: CROPLAND MLRA 10	04 Setting #1					Брес	ine i idetice Ei	iects worksneet
Considerations	Air	Plants	Animals					
Resource Problems	Airborne Drift	Establish & Harvest	Food	Cover or Shelter	Population & Balance			
CMS Options	C-1-h	D-3-a	E-l-a	E-1-b	E-2-a			
328-Conservation Cropping Seque			J		L			J
329-Cons Till System Mulch Tillage	NEG	NEG	MOD+	SLI+	SLI+			
330-Contouring	NEG	NEG	NEG	NEG	NA			
600s-Terrace	NEG	SLI-	SLI+	SLI+	NEG			
606-Subsurface Drain	NA	SIG+	MOD-	MOD-	MOD-			
645-Upland Wildlife	NEG	MOD+	SIG+	SIG+	SIG+			
590b-Nutrient Mgmt.	NEG	NEG	SLI+	SLI+	SLI+			
595-Pest Management	MOD+	SLI+	SLI-	SLI-	SLI-			
393 – Filter Strips	NEG	NEG	SLI+	MOD+	NEG			
·								
			<u> </u>					ł

Considerations		Soil				Water		
		20						
Resource Problems	Sheet & Rill	Concentrated Flow	Compaction	Office Damage	Excess Subsurface	Surface Pesticides	Surface Nutrients	Surface Turbidity
CMS Options	A-1-a	A-1-c	A-2-b	A-3-b	B-1-c	B-2-g	B-2-h	B-2-i
328-Conservation Cropping Sequen						1		
329-Cons Tillage Mulch Tillage	SIG+	SLI+	MOD+	MOD+	SLI-	SLI+	MOD+	MOD+
330-Contouring	SLI+	SLI+	NEG	SLI+	SLI-	MOD+	MOD+	SLI+
344-Crop Residue	SLI+	SLI+	NEG	SLI+	NEG	NEG	NEG	SLI+
362-Diversion	SLI+	SLI+	NEG	SLI+	NEG	SLI+	SLI+	SLI+
412-Grassed Waterway	NEG	SIG+	NEG	SLI+	NEG	SLI+	SLI+	SLI+
600s-Terrace	MOD+	SIG+	NEG	MOD+	SLI-	MOD+	MOD+	MOD+
606-Subsurface Drain	NEG	SLI+	MOD+	NEG	SIG+	MOD-	MOD-	NEG
645-Upland Wildlife Mgmt	SLI+	SLI+	MOD+	SLI+	NEG	MOD+	MOD+	MOD+
638-Water & Sediment Basin	NEG	SIG+	NEG	SIG+	SLI+	SLI+	SIG+	SIG+
590b-Nutrient Mgmt.	NEG	NEG	NEG	NEG	NEG	NEG	SIG+	NEG
595-Pest Management	NEG	NEG	NEG	NEG	NEG	SIG+	NEG	NEG
393-Filter Strips	NEG	NEG	NEG	SIG+	N/A	MOD+	MOD+	SLI+

Resource: CROPLAND MLRA 10-Considerations	Air	Plants	Animals				
Considerations	All	Tants	Aiiiiiais				
Resource Problems CMS Options	Airborne Drift	Establish & Harvest	Food	Cover or Shelter	Population & Balance		
Civile Options	C-1-h	D-3-a	E-1-a	E-1-b	E-2-a		
328-Conservation Cropping Sequen	ce Corn – So	ybeans – Soybe	ans-Drilled			-	
329-Cons Till System Mulch Tillage	NEG	NEG	MOD+	SLI+	SLI+		
330-Contouring	NEG	NEG	NEG	NEG	NA		
344-Crop Residue	NA	SLI+	SLI+	SLI+	MOD+		
362-Diversion	NA	SIG+	SLI+	SLI+	SLI+		
412-Grassed Waterway	NEG	SLI+	SLI+	SLI+	SLI+		
600s-Terrace	NEG	SLI-	SLI+	SLI+	NEG		
606-Subsurface Drain	NA	SIG+	MOD-	MOD-	MOD-		
638-Water & Sediment Basin	NEG	SLI-	SLI+	SLI+	SLI+		
590b-Nutrient Mgmt.	NEG	NEG	SLI+	SLI+	SLI-		
595-Pest Management	MOD+	SLI+	SLI-	SLI-	SLI-		
645-Upland Wildlife Mgt.	NEG	MOD+	SIG+	SIG+	SIG+		
393 – Filter Strips	NEG	NEG	SLI+	MOD+	NEG		

Landuse Type <u>Cropland</u>	Res	ource Setting	g No <u>. 2</u>	MLRA <u>104</u>	FIELI	O OFFICE		
Resource Setting. Soils are s	silty clay lo	ams over g	glacial outwas	h sands and	l loamy tills. S	Slope range fr	om 0-4% land s	lopes with
uniform landscapes with long	g slope leng	gths. Soil	wetness preve	nts timely f	ield operations	s. The croppi	ng sequence is	corn - soybeans
with sweet corn and peas occ	casionally p	lanted in t	he rotation. S	oil erosion	is a combinati	on of wind an	d water at 10 to	ns per acre per
year with erosion more assoc	ciated with	runoff and	classic gullies	s and scour	channels. Nu	trient and pes	ticides have bee	n detected in
area wells and water supplies	s. The land	owner obj	ectives are to	raise row ci	rops for an eco	nomic return	, control erosion	to tolerable
levels and manage nutrients	that are run	ning off of	the site, and	to increase	the amount of	upland wildli	fe habitat.	
					CE CONSIDER.			
Resource:		So	il			Water		
	Sheet &	Wind	Compaction	Classic	Excess	Ground	Ground	Surface
	Rill	Erosion		Gullies	Subsurface	Pesticides	Nutrients	Pesticides
D) (0 1	A-1-a	A-1-b	A-1-c	A-1-d	B-1-c	B-2-a	B-2-b	B-2-g
RMS # 1 Practice # And Name:								
328-Conservation Cropping Seque	nce Corn – S	Ovheans	<u></u> L		J	L		
320 Conservation Cropping Seque	nee com 5	o you and						
329-Cons Till System	SIG+	SIG+	MOD+	NEG	SLI-	SLI+	SLI-	SLI+
Mulch Till								
412-Grassed Waterway	NEG	NEG	SIG+	SIG+	NEG	NEG	NEG	SLI+
606-Subsurface Drain	NEG	SLI-	SLI+	NEG	SIG+	MOD+	MOD-	NEG
638-Water & Sediment Basin	NEG	NEG	SIG+	SIG+	SIG+	SLI-	SLI-	MOD+
645-Upland Wildlife Mgmt.	SLI+	SLI+	SLI+	SLI+	SLI+	SLI+	SLI+	MOD+
o to opinim white manner	221	221		521			521	11102
590b Nutrient Management	NEG	NEG	NEG	NEG	NEG	NEG	SIG+	NEG
595c Pest Management	NEG	NEG	NEG	NEG	NEG	SIG+	NEG	SIG+
59501 est Management	I LEG	I NEG	T.EG	I LEG	1120		1,20	DIG *
393-Filter Strips	NEG	NEG	NEG	NEG	N/A	MOD+	MOD+	MOD+
Developed By/Date	1	AO Con	currence/Date_		1	SO Concurre	ence/Date	1

MINNESOTA TECHNICAL GUIDE SECTION III CONSERVATION MANAGEMENT SYSTEM (CMS) GUIDANCE DOCUMENT Resource Setting No. 2 MLRA 104 FIELD OFFICE

Landuse Type Cropland	Resc	ource Setting	No <u>. 2</u>	MLRA <u>104</u>	FIE	LD OFFICE		
		_			•	• •	-	
with sweet corn and peas occ	casionally pl	anted in th	e rotation. S	Soil erosion is	a combina	tion of wind an	d water at 10 tons per	acre per
year with erosion more assoc	ciated with r	unoff and	classic gullie	s and scour cl	nannels. N	utrient and pest	ticides have been dete	cted in
area wells and water supplies	s. The lando	owner obje	ctives are to	raise row croj	ps for an ec	conomic return,	control erosion to tol	erable
levels and manage nutrients	that are runn	ning off of	the site, and	to increase the	e amount o	f upland wildli	fe habitat.	
Resource:	Water		Air	Plants	Animals			
	Surface	Surface	Airborne	Establish &	Food	Cover or	Population &	
	Nutrients	Turbidity	Drift	Harvest		Shelter	Balance	
	B-2-h	B-2-I	C-1-h	D-3-a	E-1-a	E-1-b	E-2-a	
Surface Nutrients Surface Surface								
328-Conservation Cropping Seque	ence Corn – So	ybeans						
	MOD+	SLI+	NEG	SLI+	MOD+	SLI+	SLI+	
412-Grassed Waterway	SLI+	SLI+	NEG	SLI+	SLI+	SLI+	SLI+	
606-Subsurface Drain	MOD-	NEG	NA	SIG+	MOD-	MOD-	MOD-	
638-W&S Basin	MOD+	SLI+	NEG	NEG	SLI+	SLI+	SLI+	
645-Upland Wildlife Mgmt.	MOD+	MOD+	NEG	NEG	SIG+	SIG+	SIG+	
590b Nutrient Management	SIG+	NEG	NEG	NEG	SLI+	SLI+	SLI+	
595c Pest Management	NEG	NEG	MOD+	SLI+	SLI-	SLI-	SLI-	
393-Filter Strips	MOD+	SLI+	NEG	NEG	SLI+	MOD+	NEG	
Developed By/Date	I.	AO Conc	urrence/Date	1	1	SO Concurre	ence/Date	

Sheet &	So	11		Water					
Class 4 Pa					vv atei				
Rill	Wind Erosion	Concentrated Flow	Classic Gullies	Excess Subsurface	Ground Pesticides	Ground Nutrients	Surface Pesticides		
A-1-a	A-1-b	A-1-c	A-1-d	B-1-c	B-2-a	B-2-b	B-2-g		
ence Corn – S	loybeans								
SIG+	SIG+	MOD+	NEG	SLI-	SLI+	SLI-	SLI+		
NEG	NEG	SIG+	SIG+	NEG	NEG	NEG	SLI+		
NEG	SLI-	SLI+	NEG	SIG+	MOD+	MOD+	NEG		
NEG	NEG	SIG+	SIG+	SLI-	SLI-	SLI-	MOD+		
SLI+	SLI+	SLI+	SLI+	SLI+	SLI+	SLI+	MOD+		
NEG	NEG	NEG	NEG	NEG	NEG	SIG+	NEG		
NEG	NEG	NEG	NEG	NEG	SIG+	NEG	SIG+		
NEG	NEG	NEG	NEG	N/A	MOD+	MOD+	MOD+		
			-						
	NEG NEG NEG NEG NEG NEG	ence Corn – Soybeans SIG+ SIG+ NEG NEG NEG SLI- NEG NEG SLI+ SLI+ NEG NEG NEG NEG NEG NEG	SIG+ SIG+ MOD+ NEG	SIG+ SIG+ MOD+ NEG NEG NEG SIG+ SIG+ NEG SLI- SLI+ NEG NEG NEG SIG+ SIG+ SIG+ SIG+ SIG+ NEG NEG SIG+ SIG+ SLI+ SLI+ SLI+ SLI+ NEG NEG NEG NEG NEG NEG NEG NEG	SIG+ SIG+ MOD+ NEG SLI- NEG NEG SIG+ NEG NEG SLI- SLI+ NEG SIG+ NEG NEG SIG+ SIG+ NEG NEG SIG+ SLI- SLI+ SLI+ SLI+ SLI+ SLI+ NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG	SIG+	SIG+ SIG+ MOD+ NEG SLI- SLI+ SLI- NEG NEG SIG+ SIG+ NEG NEG NEG NEG SLI- SLI+ NEG NEG NEG NEG NEG SIG+ SIG+ MOD+ MOD+ NEG NEG SIG+ SLI- SLI- SLI- SLI+ SLI+ SLI+ SLI+ SLI+ SLI+ SLI+ NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG NEG		

RESOURCE: CROPLAND MLRA	104 SETTIN	NG #2				2011001 1411011 1111	magement system Options worksheet
Resource:	Water		Air	Plants	Animals		
Resource Problems CMS Options	Surface Nutrients	Surface Turbidity	Airborne Drift	Establish & Harvest	Food	Cover or Shelter	Population & Balance
-	B-2-h	B-2-i	C-1-h	D-3-a	E-1-a	E-1-b	E-2-a
328-Conservation Cropping Sequen	ce Corn – So	ybeans					
329-Cons Tillage Mulch Tillage	MOD+	SIG+	NEG	SLI+	MOD+	SLI+	SLI+
412-Grassed Waterway	SLI+	SLI+	NEG	SLI+	SLI+	SLI+	SLI+
606-Subsurface Drain	MOD-	NEG	NA	SLG+	MOD-	MOD-	MOD-
638-W&S Basin	MOD+	SIG+	NEG	NEG	SLI+	SLI+	SLI+
645-Upland Wildlife Mgmt.	MOD+	MOD+	NEG	NEG	SIG+	SIG+	SIG+
590b Nutrient Management	SIG+	NEG	NEG	NEG	SLI+	SLI+	SLI+
595c Pest Management	NEG	NEG	MOD+	SLI+	SLI-	SLI-	SLI-
393-Filter Strip	MOD+	SLI+	NEG	NEG	SLI+	MOD+	NEG

Considerations		Soi	1			Water		
Resource Problems CMS Options	Sheet & Rill A-1-a	Wind A-1-b	Concentrated Flow A-1-c	Classic Gullies A-1-d	Excess Subsurface B-1-c	Ground Pesticides B-2-a	Ground Nutrients B-2-b	Surface Pesticides B-2-g
328-Conservation Cropping Sequence	4					1 2 2 4		1 2 2 8
329-Cons Till System (Mulch Till)	SIG+	SIG+	MOD+	NEG	SLI-	SLI+	SLI-	SLI+
330-Contouring	MOD+	SLI+	SLI+	SLI+	SLI-	SLI-	SLI-	SLI+
344-Crop Residue Use	SLI+	MOD+	SLI+	SLI+	NEG	NEG	NEG	NEG
362-Diversion	NEG	NEG	SIG+	SIG+	NEG	SLI-	SLI-	SLI+
410-Grade Stabilization	NEG	NEG	SIG+	SIG+	NEG	NEG	NEG	SLI+
412-Grassed Waterway	NEG	NEG	SIG+	SIG+	NEG	NEG	NEG	SLI+
600s-Terraces	MOD+	SLI+	SIG+	MOD+	SLI-	SLI-	SLI-	SLI+
606-Subsurface Drain	NEG	SLI-	SLI+	NEG	SIG+	MOD+	MOD+	NEG
638-Water & Sediment Basin	NEG	NEG	SIG+	SIG+	SLI-	SLI-	SLI-	MOD+
645-Upland Wildlife Mgmt.	SLI+	SLI+	SLI+	SLI+	SLI+	SLI+	SLI+	MOD+
590b Nutrient Management	NEG	NEG	NEG	NEG	NEG	NEG	SIG+	NEG
595c Pest Management	NEG	NEG	NEG	NEG	NEG	SIG+	NEG	SIG+
393-Filter Strips	NEG	NEG	NEG	NEG	N/A	MOD+	MOD+	MOD+

RESOURCE: CROPLAND MLRA : Resource:	Water	- ·· -	Air	Plants	Animals		
Resource.	w ater		All	Tiants	Aiiiiiais		
Resource Problems CMS Options	Surface Nutrients	Surface Turbidity	Airborne Drift	Establish & Harvest	Food	Cover or Shelter	Population & Balance
CMS Options	B-2-h	B-2-i	C-1-h	D-3-a	E-1-a	E-1-b	E-2-a
328-Conservation Cropping Sequence	e Corn – Soyl	beans	1	<u>'</u>	· ·	-	-
329-Cons Till System (Mulch Till)	MOD+	SIG+	NEG	SLI+	MOD+	SLI+	SLI+
330-Contouring	SLI+	MOD+	NEG	NEG	NEG	NEG	NA
344-Crop Residue Use	NEG	SLI+	NA	SLI+	SLI+	SLI+	MOD+
362-Diversion	SLI+	SLI+	NA	NEG	SLI+	SLI+	SLI+
410-Grade Stabilization.	SLI+	SIG+	NEG	NEG	SLI+	SLI+	SLI+
412-Grassed Waterway	SLI+	SLI+	NEG	SLI+	SLI+	SLI+	SLI+
600s-Terraces	SLI+	SIG+	NEG	SLI-	SLI+	SLI+	NEG
606-Subsurface Drain	MOD-	NEG	NA	SLG+	MOD-	MOD-	MOD-
638-W&S Basin	MOD+	SIG+	NEG	NEG	SLI+	SLI+	SLI+
645-Upland Wildlife Mgmt.	MOD+	MOD+	NEG	NEG	SIG+	SIG+	SIG+
590b Nutrient Management	SIG+	NEG	NEG	NEG	SLI+	SLI+	SLI+
595c Pest Management	NEG	NEG	MOD+	SLI+	SLI-	SLI-	SLI-
393-Filter Strip	MOD+	SLI+	NEG	NEG	SLI+	MOD+	NEG

SO Concurrence/Date_

Developed By/Date

MINNESOTA TECHNICAL GUIDE SECTION III CONSERVATION MANAGEMENT SYSTEM (CMS) GUIDANCE DOCUMENT

Landuse Type Cropland	Reso	ource Setting No	<u>. 1</u> M	LRA <u>105</u>	FIELD (OFFICE		
Resource Setting: The major soils								
years hayland, with moldboard plov								
encroaching from the edge of the fie								
odor are a problem with surrounding								
Pest pressure is evident on all crops								
animal waste to provide nutrient of		ction and reduce	the pesticide ar	nd nutrient that	are running of	f and leaching throu	igh the site. The lai	ndowner also
wants to increase the amount of upla								
	R	EFERENCE FR	OM CPPE AN	D RESOURCE	CONSIDERA	TIONS		
Resource:		Soil				Water	_	
	Sheet &	Concentrated	Classic	Compaction	Offsite	Ground	Ground	Surface
	Rill	Flow	Gullies		Damage	Pesticides	Nutrients	Pesticides
	A-1-a	A-1-b	A-1-d	A-2-b	A-3-b	B-2-a	B-2-b	B-2-g
RMS # 1								
Practice # And Name:	<u> </u>							
328-Conservation Cropping Sequen	ce (Corn for	grain - Corn for	grain – Grain s	seeded – Hay-H	.,			
329-Cons Till System	SIG+	SLI+	NEG	MOD+	SIG+	NEG	NEG	SLI+
Mulch Till								
585-Contour Strip Crop	SIG+	SLI+	SLI+	SLI+	MOD+	SLI+	SLI+	SLI+
412-Grassed Waterway	NEG	SIG+	SIG+	NEG	SLI+	SLI+	SLI+	SLI+
362-Diversion	SLI+	SLI+	SIG+	NEG	SLI+	SLI+	SLI+	SLI+
633- Waste Utilization	SLI+	NEG	NEG	NEG	SLI+	SLI+	SIG+	SLI+
645-Upland Wildlife Mgmt.	SLI+	SLI+	SLI+	MOD+	SLI+	SLI+	SLI+	MOD+
590b Nutrient Management	SLI+	SLI+	SLI+	SLI+	NEG	NEG	SIG+	NEG
595c Pest Management	NEG	NEG	NEG	NEG	NEG	SIG+	NEG	SIG+
					ļ			
393- Filter Strips	NEG	NEG	NEG	NEG	SIG+	MOD+	MOD+	MOD+
	1	1					1	

AO Concurrence/Date

Landuse Type Cropland Resource Setting No. 1 MLRA 105 FIELD OFFICE

Resource Setting: The major soils are silt loams with slopes that range from 6-12%. The cropping sequence is two years corn, one-year small grain seeded, two years hayland, with moldboard plowing being done in the fall. Sheet and rill erosion rates are 14 tons/acre/year. Soil compaction is present and small gullies are encroaching from the edge of the fields. The farm is a dairy operation and animals waste is spread on the ground at inappropriate times. Runoff of the manure and odor are a problem with surrounding neighbors and streams that are located nearby. Pesticides and nutrients have been detected in area wells and surface waters. Pest pressure is evident on all crops grown. The landowner's objectives are to raise crops for an economic return; control erosion to a tolerable level, manage the animal waste to provide nutrient of r crop production and reduce the pesticide and nutrient that are running off and leaching through the site. The landowner also wants to increase the amount of unland wildlife.

wants to increase the amount of the	1							
	REF	FERENCE FI	ROM CPPE A	ND RESOURCE	CONSIDER	ATIONS		
Resource:		Soil				Water		
	Surface Nutrients & Organics	Surface Turbidity	Airborne Odors	Pest Management	Food	Cover or Shelter	Population & Balance	
	B-2-h	B-2-i	C-1-i	D-3-c	E-1-a	E-1-b	E-2-a	
RMS # 1 Practice # And Name:								
328-Conservation Cropping Sequ						····		
329-Cons Till System Mulch Till	SLI+	MOD+	NEG	NEG	MOD+	SLI+	SLI+	
585-Contour Strip Crop	SLI+	SLI+	NEG	SLI-	SLI+	MOD+	SLI+	
412-Grassed Waterway	SLI+	MOD+	NEG	SLI-	SLI+	SLI+	SLI+	
362-Diversion	SLI+	SLI+	NA	SLI-	SLI+	SLI+	SLI+	
633- Waste Utilization	SIG+	SLI+	MOD+	SLI+	SLI+	SLI+	SLI+	
645-Upland Wildlife Mgmt.	MOD+	MOD+	NEG	MOD+	SIG+	SIG+	SIG+	
590b Nutrient Management	SIG+	NEG	SIG+	SLI+	SLI+	SLI+	SLI+	
595c Pest Management	NEG	NEG	NEG	SIG+	SLI-	SLI-	SLI-	
393-Filter Strips	MOD+	SLI+	NEG	NEG	SLI+	MOD+	NEG	
Developed By/Date		AO Concur	rence/Date			SO Concurrence	ce/Date	

RESOURCE: CROPLAND MLR	A 105 SE	ETTING #1 CO	NSIDERATIO	ONS #2		0110 0 1 (W 01011 1 (1 W 10	gement System Opt	10110 11 0111011000
Considerations		Soil				Water		
Resource Problems	Sheet & Rill	Concentrated Flow	Classic Gullies	Compaction	Offsite Damage	Ground Pesticides	Ground Nutrients & Organics	Surface Pesticides
CMS Options	A-1-a	A-1-c	A-1-d	A-2-b	A-3-b	B-2-a	B-2-b	B-2-g
328-Conservation Cropping Sequen Corn for Grain – Corn for Grain See		Нау						
329-Cons Till System Mulch Till	SIG+	SLI+	NEG	SLI+	SIG+	NEG	NEG	SLI+
585-Contour Strips	SIG+	SLI+	SLI+	SLI+	MOD+	SLI+	SLI+	SLI+
412-Grassed W. W.	NEG	SIG+	SIG+	NEG	SLI+	SLI+	SLI+	SLI+
362-Diversion	SLI+	SLI+	SIG+	NEG	SLI+	SLI+	SLI+	SLI+
645-Upland Wildlife Mgmt	SLI+	SLI+	SLI+	MOD+	SLI+	SLI+	SLI+	MOD+
590b-Nutrient Mgmt	SLI+	SLI+	SLI+	SLI+	NEG	NEG	SIG+	SLI+
595-Pest Management	NEG	NEG	NEG	NEG	NEG	SIG+	NEG	SIG+
633-Waste Utilization	SLI+	NEG	NEG	NEG	SLI+	SLI+	SIG+	SLI+
393-Filter Strips	NEG	NEG	NEG	NEG	SIG+	MOD+	MOD+	MOD+
					<u></u>			

REFERENCE FROM CPPE AND I	RESOURCE CO	NSIDERATI	ONS #2		Cons	er vation ivianag	ement System Options worksheet
Considerations	Water		Air	Animals			
Resource Problems CMS Options	Surface Nutrients & Organics	Surface Turbidity	Airborne Odors	Pest Management	Food	Cover or Shelter	Population & Balance
Civis Options	B-2-h	B-2-i	C-1-i	D-3-c	E-1-a	E-1-b	E-2-a
328-Conservation Cropping Sequen	ce Corn for grai	n – Corn for g	rain seeded – Ha	ay – Hay			
329-Cons Till System Mulch Till	SLI+	MOD+	NEG	NEG	MOD+	SLI+	SLI+
585-Contour Strips	SIG+	SLI+	NEG	MOD+	SLI+	MOD+	SLI+
412-Grassed W. W.	SLI+	MOD+	NEG	SLI-	SLI+	SLI+	SLI+
362-Diversion	SLI+	SLI+	NA	SLI-	SLI+	SLI+	SLI+
645-Upland Wildlife Mgmt	MOD+	MOD+	NEG	MOD+	SIG+	SIG+	SIG+
590b-Nutrient Mgmt	SIG+	NEG	SIG+	SLI+	SLI+	SLI+	SLI+
595-Pest Management	NEG	NEG	NEG	SIG+	SLI-	SLI-	SLI-
633-Waste Utilization	SIG+	SLI+	MOD+	SLI+	SLI+	SLI+	SLI+
393-Filter Strips	MOD+	SLI+	NEG	NEG	SLI+	MOD+	NEG
					ļ		

RESOURCE: CROPLAND MLRA	105 SETT							
Considerations		So	il			Water		
Resource Problems	Sheet & Rill	Con Flow	Classic Gullies	Compaction	Offsite Damage	Ground Pesticides	Ground Nutrients & Org	Surface Pesticides
CMS Options	A-1-a	A-1-c	A-1-d	A-2-b	A-3-b	B-2-a	B-2-b	B-2-g
328-Conservation Cropping Sequer	ce C-C-GS-	Hay-Hay						
329-Cons Tillage 30% Cover	SIG+	SLI+	NEG	SLI+	SIG+	NEG	NEG	SLI+
330-Contouring	SIG+	SLI+	NEG	NEG	SLI+	SLI-	SLI-	SLI+
344-Crop Residue	SIG+	SLI+	NEG	NEG	SLI+	NEG	NEG	NEG
362-Diversion	SLI+	SLI+	SIG+	NEG	SLI+	SLI+	SLI+	SLI+
393-Filter Strip	NEG	NEG	NEG	NEG	SIG+	MOD+	MOD+	MOD+
410-Grade Stability	NEG	NEG	SIG+	NEG	MOD+	NEG	NEG	NEG
412-Grassed Waterway	NEG	SIG+	SIG+	NEG	SLI+	SLI-	SLI-	SLI+
585-Contour Strip Crop.	SIG+	SLI+	SLI+	SLI+	MOD+	SLI+	SLI+	SLI+
600g Terraces	MOD+	SIG+	SIG+	NEG	SIG+	SLI-	SLI-	SLI+
638-Water & Sediment Basin	NEG	SIG+	SIG+	NEG	SIG+	SLI-	SLI+	MOD+
633-Waste Utilization	SLI+	NEG	NEG	SLI+	SLI+	SLI+	SLI+	MOD+
590-Nutrient Management	SLI+	SLI+	SLI+	SLI+	NEG	NEG	SIG+	SLI+
595-Pest Management	NEG	NEG	NEG	NEG	NEG	SIG+	NEG	SIG+

RESOURCE: CROPLAND MLRA	A 105 SETTI	NG #1					lagement system options worksheet
Considerations	Water		Air	Plants	Animals		
Resource Problems CMS Options	Surface Nutrition & Org.	Surface Turbidity	Airborne Odors	Pest Management	Food	Cover or Shelter	Population & Balance
220	B-2-h	B-2-i	C-1-i	D-3-c	E-1-a	E-1-b	E-2-a
328-Conservation Cropping Sequen			NEC	LANG	TMOD	CII	
329-Cons Till age Mulch Tillage	SLI+	MOD+	NEG	NEG	MOD+	SLI+	SLI+
330-Contouring	SLI+	SLI+	NEG	NEG	NEG	NEG	NA
344-Crop Residue	NEG	SLI+	NEG	SLI+	SLI+	SLI+	MOD+
362-Diversion	SLI+	SLI+	NA	SLI-	SLI+	SLI+	SLI+
393-Filter Strip	MOD+	SLI+	NEG	NEG	SLI+	MOD+	NEG
410-Grade Stabilization.	NEG	SLI+	NEG	SLI-	SLI+	SLI+	SLI+
412-Grassed Waterway	SLI+	MOD+	NEG	SLI-	SLI+	SLI+	SLI+
585-Contour Strip Crop.	SLI+	SLI+	NEG	MOD+	SLI+	MOD+	SLI+
600g-Terraces	SLI+	MOD+	NEG	SLI-	SLI+	SLI+	NEG
638-Water &Sediment Basin	MOD+	SIG+	NEG	NEG	SLI+	SLI+	SLI+
633-Waste Utilization	MOD+	MOD+	SIG+	SLI+	SLI+	SLI+	SLI+
645-Upland Wildlife Mgmt	MOD+	MOD+	NEG	MOD+	SIG+	SIG+	SIG+
590-Nutrient Management	SIG+	NEG	SIG+	SLI+	SLI+	SLI+	SLI+
595-Pest Management	NEG	NEG	NEG	SIG+	SLI-	SLI-	SLI-

Landuse Type Cropland	Resource Setting No. 2	MLRA <u>105</u>	Field Office
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Resource Setting: The major soils are upland silt loams with slopes that range from 6-12%. The cropping sequence is two years corn, one-year soybeans with moldboard plowing being done in the fall. Sheet and rill erosion is 35 tons per acre per year. Soil compaction is present and gullies are located in almost all moderate to large drainage ways. Pesticides and nutrients have been detected in area wells and surface waters. Pest pressure is evident on all crops grown. The landowners objectives are to raise row crops for an economic return, control erosion to a tolerable level, manage nutrients to reduce input costs; and reduce the pesticides and nutrients that are running off and leaching though the site. The landowner also wants to increase upland wildlife.

n	1		COM CPPE A	AND RESOURCE	CONSIDER				
Resource	Soil					Water			
	Sheet & Rill	Concentrated Flow	Classic Gullies	Compaction	Offsite Damage	Ground Pesticides	Ground Nutrients & Org	Surface Pesticides	
	A-1-a	A-1-c	A-1-d	A-2-b	A-3-b	B-2-a	B-2-b	B-2-g	
328-Conservation Cropping Sequen	ce (Corn – S	Soybeans-Corn)	Soybeans dril	led, corn followin	g soybeans no	o-till planted			
329-Cons Till System	SIG+	SLI+	NEG	MOD+	MOD+	NEG	NEG	SLI+	
Mulch Till	SIG+	MOD+	NEG	MOD+	MOD+	SLI-	SLI-	MOD+	
330-Contouring	SIG+	SLI+	NEG	NEG	SLI+	SLI+	SLI+	SLI+	
600-Terraces	MOD+	SIG+	SIG+	NEG	SLI+	SLI+	SLI+	SLI+	
620-Underground Outlet	FAC	FAC	FAC	FAC	FAC	FAC	FAC	FAC	
645-Upland Wildlife Management	SLI+	SLI+	SLI+	MOD+	SLI+	SLI+	SLI+	MOD+	
590-Nutrient Management	SLI+	SLI+	NEG	SLI+	NEG	NEG	SIG+	NEG	
595c-Pest. Management	NEG	NEG	NEG	NEG	NEG	SIG+	NEG	SIG+	
393-Filter Strips	NEG	NEG	NEG	NEG	SIG+	MOD+	MOD+	MOD+	

Landuse Type Cropland	Resourc	ce Setting No.	2	MLRA <u>105</u>	<u> </u>	Field Offic	e	
Resource Setting: The major								
one-year soybeans with moldl								
present and gullies are located	l in almost al	l moderate t	o large draina	age ways. Pesti	cides and 1	nutrients have	e been detected in are	a wells
and surface waters. Pest press	sure is evider	nt on all crop	s grown. Th	e landowners ol	bjectives a	re to raise ro	w crops for an econor	mic
return, control erosion to a tol	erable level,	manage nuti	rients to redu	ce input costs; a	nd reduce	the pesticide	s and nutrients that a	re
running off and leaching thou	gh the site. T	The landown	er also wants	to include upla	nd wildlife	e.		
				D MLRA 105 SET				
Resource:	Water		Air	Plants	Animals			
	Surface	Surface	Airborne	Pest	Food	Cover or	Population &	•
	Nutrients &	Turbidity	Drift	Management		Shelter	Balance	
	Organics							
	B-2-h	B-2-i	C-1-h	D-3-c	E-1-a	E-1-b	E-2-a	
RMS # 1 Practice # and Name:								
328-Conservation Cropping Sequen	ce (corn-soybea	ans-corn) soyb	eans drilled, con	n following soybea	ans no-till pl	anted		
329-Cons Tillage	SLI+	MOD+	NEG	NEG	MOD+	SLI+	SLI+	
No Tillage	SLI+	MOD+	SLI-	SLI-	SLI+	MOD+	SLI+	
330-Contouring	SLI+	SLI+	NEG	NEG	NEG	NEG	NA	
600-Terraces	SLI+	MOD+	NEG	SLI-	SLI+	SLI+	NEG	
620-Underground Outlet	FAC	FAC	FAC	FAC	FAC	FAC	FAC	-
645-Upland Wildlife Management	MOD+	MOD+	SLI+	MOD+	SIG+	SIG+	SIG+	
590-Nutrient Management	SIG+	NEG	NEG	SLI+	SLI+	SLI+	SLI+	
595-Pest Management	NEG	NEG	MOD+	SIG+	SLI-	SLI-	SLI-	
393-Filter Strips	MOD+	SLI+	NEG	NEG	SLI+	MOD+	NEG	
Developed By/Date	L	AO Concurre	nce/Date		 S	O Concurrence	 /Date	

RESOURCE: CROPLAND MLRA Considerations	LIJU DETT	Soil				Water		
Considerations	Son					vv atei		
Resource Problems	Sheet & Rill	Concentrated Flow	Classic Gullies	Compaction	Offsite Damage	Ground Pesticides	Ground Nutrients & Organics	Surface Pesticides
CMS Options	A-1-a	A-1-c	A-1-d	A-2-b	A-3-b	B-2-a	B-2-b	B-2-g
328-Conservation Cropping Sequen	ce (Corn – S	Soybeans-Corn)	Soybeans dril	led, corn followin	g soybeans no	o-till planted		
329-Cons Tillage			T		T			
Mulch tillage	SIG+	SLI+	NEG	MOD+	MOD+	NEG	NEG	SLI+
No Tillage	SIG+	MOD+	NEG	MOD+	MOD+	SLI-	SLI-	MOD+
330-Contouring	SIG+	SLI+	NEG	NEG	SLI+	SLI-	SLI-	SLI+
600-Terraces	MOD+	SIG+	SIG+	NEG	SLI+	SLI+	SLI+	SLI+
620-Underground Outlet	FAC	FAC	FAC	FAC	FAC	FAC	FAC	FAC
645-Upland Wildlife Management	SLI+	SLI+	SLI+	MOD+	SLI+	SLI+	SLI+	MOD+
590-Nutrient Management	SLI+	SLI+	NEG	SLI+	NEG	NEG	SIG+	NEG
595c-Pest. Management	NEG	NEG	NEG	NEG	NEG	SIG+	NEG	SIG+
383-Filter Strips	NEG	NEG	NEG	NEG	SIG+	MOD+	MOD+	MOD+
			<u> </u>					
					 			

RESOURCE: CROPLAND MLRA	105 SETTING	G #2				. ,	ment System Options workshee	
Resource:	Water		Air	Plants	Animals			
Resource	Surface	Surface	Airborne	Pest	Food	Cover or	Population &	
Problems	Nutrients &	Turbidity	Drift	Management		Shelter	Balance	
CMS Options	Organics							
	B-2-h	B-2-i	C-1-i	D-3-c	E-1-a	E-1-b	E-2-a	
328-Conservation Cropping Sequen				·				
329-Cons Tillage	SLI+	MOD+	NEG	NEG	MOD+	SLI+	SLI+	
Mulch Tillage	SLI+	MOD+	SLI-	SLI-	SLI+	MOD+	SLI+	
No Tillage								
330-Contouring	SLI+	SLI+	NEG	NEG	NEG	NEG	NA	
600g-Terraces	SLI+	MOD+	NEG	SLI-	SLI+	SLI+	NEG	
620-Underground Outlet	FAC	FAC	FAC	FAC	FAC	FAC	FAC	
645-Upland Wildlife Management	MOD+	MOD+	SLI+	MOD+	SIG+	SIG+	SIG+	
590-Nutrient Management	SIG+	NEG	NEG	SLI+	SLI+	SLI+	SLI+	
595-Pest Management	NEG	NEG	MOD+	SIG+	SLI-	SLI-	SLI-	
393-Filter Strips	MOD+	MOD+	NEG	NEG	SLI+	MOD+	NEG	
			-		 			
		-			<u> </u>			
								

RESOURCE: CROPLAND	MLRA 105 SET	TING #2					<u> </u>		
Considerations		Sc			Water				
	ource Sheet & Rill	Con Flow	Classic Gullies	Compaction	Offsite Damage	Ground Pesticides	Ground Nutrients & Org	Surface Pesticides	
CMS Options	A-1-a	A-1-c	A-1-d	A-2-b	A-3-b	B-2-a	B-2-b	B-2-g	
328-Conservation Cropping Sec								,	
329-Cons Tillage 50% Corn, Soybeans 30%	SIG+	SLI+	NEG	SLI+	SIG+	NEG	NEG	SLI+	
330-Contouring	SIG+	SLI+	NEG	NEG	SLI+	SLI-	SLI-	SLI+	
344-Crop Residue	SIG+	SLI+	NEG	NEG	SLI+	NEG	NEG	NEG	
362-Diversion	SLI+	SLI+	SIG+	NEG	SLI+	SLI-	SLI-	SLI+	
393-Filter Strip	NEG	NEG	NEG	NEG	SIG+	MOD+	MOD+	MOD+	
410-Grade Stabilization.	NEG	NEG	SIG+	NEG	MOD+	NEG	NEG	NEG	
412-Grassed Waterway	NEG	SIG+	SIG+	NEG	SLI+	SLI-	SLI-	SLI+	
585-Contour Strip Crop.	SIG+	SLI+	SLI+	SLI+	MOD+	SLI+	SLI+	SLI+	
600g-Terraces	MOD+	SIG+	SIG+	NEG	SIG+	SLI+	SLI+	SLI+	
638-Water & Sediment Basin	NEG	SIG+	SIG+	NEG	SIG+	SLI+	SLI+	MOD+	
633-Waste utilization	SLI+	NEG	SLI+	SLI+	SLI+	SLI+	SLI+	MOD+	
590-Nutrient Management	SLI+	SLI+	SLI+	SLI+	NEG	NEG	SIG+	SLI+	
595-Pest Management	NEG	NEG	NEG	NEG	NEG	SIG+	NEG	SIG+	
620-Underground Outlet	FAC	FAC	FAC	FAC	FAC	FAC	FAC	FAC	
645-Wildlife Management	SLI+	SLI+	SLI+	MOD+	SLI+	SLI+	SLI+	MOD+	

RESOURCE: CROPLAND MLR		ING #2						
Considerations	Water		Air	Plants	Animals			
Resource Problems	Nut. &	Surface Turbid.	Airborne Drift	Pest Management	Food	Cover or Shelter	Population & Balance	
CMS Options	Org. B-2-h	B-2-i	C-1-h	D-3-c	E-1-a	E-1-b	E-1-b	
328-Conservation Cropping Sequence	(Corn – Soybo	eans-Corn) Soy	beans drilled, c	orn following soybe	ans no-till pl	anted		
329-Cons Tillage Mulch Tillage No-Tillage	SLI+ SLI+	MOD+ MOD+	NEG SLI-	NEG SLI-	MOD+ SLI+	SLI+ MOD+	SLI+ SLI+	
330-Contouring	SLI+	SLI+	NEG	NEG	NEG	NEG	NA	
344-Crop Residue	NEG	SLI+	SLI+	SLI+	SLI+	SLI+	MOD+	
362-Diversion	SLI+	SLI+	NA	SLI-	SLI+	SLI+	SLI+	
393-Filter Strip	MOD+	SLI+	NEG	NEG	SLI+	SLI+	NEG	
410-Grade Stabilization.	NEG	SLI+	NEG	SLI-	SLI+	SLI+	SLI+	
412-Grassed Waterway	SLI+	MOD+	NEG	SLI-	SLI+	SLI+	SLI+	
585-Contour Strip Crop.	SLI+	SLI+	NEG	MOD+	SLI+	MOD+	SLI+	
600g-Terraces	SLI+	MOD+	NEG	SLI-	SLI+	SLI+	NEG	
638-Water & Sediment Basin	MOD+	SIG+	NEG	NEG	SLI+	SLI+	SLI+	
633-Waste utilization	MOD+	MOD+	SIG+	SLI+	SLI+	SLI+	SLI+	
590-Nutrient Management	SIG+	NEG	NEG	SLI+	SLI+	SLI+	SLI+	
595-Pest Management	NEG	NEG	MOD+	SIG+	SLI-	SLI-	SLI-	
620-Underground Outlet	FAC	FAC	FAC	FAC	FAC	FAC	FAC	
645-Wildlife Management	MOD+	MOD+	SLI+	MOD+	SIG+	SIG+	SIG+	

INSERTS					,			
Landuse Type Cropland	Resour	ce Setting N	No ML	RA <u>94A</u>		FIELD OFFICE		_
Resource Setting: Owner objecti Soils-Loamy find sands on 2 to 6 Crop rotation – Corn and soybear Resource concerns-Nutrient/pesti	% slopes. ns.	•	•	•	C	round water and imp	rove wildlife habitat.	
	F	REFERENC	E FROM CPPE A	ND RESOU	RCE CONSI	DERATIONS		
Resource:	Soil				Water			
	Sheet and Rill Erosion	Wind Erosion A-1-b	Concentrated Flow Erosion	Soil Tilth A-2-a	Water Mgmt. B-1-f	Surface Contamination Pesticide B-2-g	Surface Contamination Nutrients/Organics B-2-h	
RMS # 1 Practice # And Name:	12.1 W			112 W		228		
328-CCS Corn/Soybeans				 				
329-Cons. Tillage (30%)	SIG+	SIG+	SLI+	MOD+	MOD+	NEG	NEG	
392-Field. Windbreak	NEG	MOD+	NEG	MOD+	MOD+	SLI-	SLI-	
645-Wildlife Upland Mgmt	SLI+	SLI+	SLI+	SLI+	SLI+	SLI+	SLI+	
590e-Nutrient Management	SLI+	SLI+	SLI+	SLI+	SLI+	NEG	SIG+	
595c-Pest Management	NEG	NEG	NEG	NEG	SLI+	SIG+	NEG	
393-Filter Strips	NEG	NEG	NEG	NEG	N/A	MOD+	MOD+	
Developed By/Date	·	AO Concu	rrence/Date	•		SO Concurrenc	e/Date	

Landuse Type Cropland	Resource Sett	ting No. MLR	A 94A	FIELD OFFI	CE	
Resource Setting: Owner objects Soils-Loamy fine sands on 2 to 6 Crop rotation – Corn and soybea Resource concerns-Nutrient/pest	% slopes. ns.			ce and ground water and	improve wildlife	e habitat.
	REFERENC	CE FROM CPPE AND F	RESOURCE CO	NSIDERATIONS		
Resource:	Soil	Animals				
	Nutrient Management	Food (Wildlife)				
	D-3-b	E-1-a				
RMS # 1 Practice # And Name:						
328-CCS Corn/Soybeans						
329-Cons. Tillage (30%)	NEG	MOD+				
392-Field. Windbreak	NA	MOD+				
645-Wildlife Upland Mgmt	NA	SIG+				
590e-Nutrient Management	SIG+	SLI+				
595c-Pest Management	NA	SLI+				
393-Filter Strip	NEG	SLI+				
Davidanad Dv/Data	40.0	Canaumanaa/Data		SO Consum	ranga/Data	

Landuse Type Cropland	Reso	ource Setting No.	MLRA	57, 88, 93	FIELD OFF.	ICE	 _
Resource Setting: Owner objective		economic returns f	rom agricultural pr	roduction and min	imize soil erosion.		
Soils-Silt loams on 0 to 6% slopes							
Crop Rotation – Continuous smal							
Resource concerns – soil erosion	and limited wildli						
		REFERENCE FR	ROM CPPE AND I		ISIDERATIONS		
Resource:	Soil		Water	Plants		Animals	
	Sheet and	Concentrated	Excess Runoff	Nutrient	Pest	Food	
	Rill Erosion	Flow Erosion	Flooding	Management	Management	(Wildlife)	
	A-1-a	A-1-c	B-1-b	D-3-b	D-3-c	E-1-a	
RMS # 1							
Practice # And Name:							
328-CCS (small grain)				 			
329-Till. (Mulch)	SIG+	SIG+	SIG+	NEG	NEG	MOD+	
412-Grassed Waterway	SLI+	SIG+	SLI+	NA	NEG	MOD+	
645-WildlifeUpland Mgmt	SLI+	SLI+	SLI+	SLI+	SLI+	SIG+	
590d-Nutrient Management	SLI+	SLI+	SLI+	SIG+	NEG	SIG+	
595e-Pest Management	SLI+	NEG	NA	NA	SIG+	SLI+	
393-Filter Strips	NEG	NEG	N/A	NEG	NEG	SLI+	
	<u> </u>	I	_1	1		<u> </u>	
Developed By/Date		AO Concurrence	e/Date		SO Concurre	ence/Date	

MINNESOTA TECHNICAL GUIDE SECTION III CONSERVATION MANAGEMENT SYSTEM (CMS) GUIDANCE DOCUMENT Resource Setting No. MLRA 90 FIELD OFFICE ___

Landuse Type Cropland	Resou	rce Setting No.	MLRA	90	FIELD OFFIC	E	
Resource Setting: Owner objecti	ives – maintain p	roductivity levels	s. minimize nutr	ients/pesticide r	oollution to ground w	ater, and control wi	nd erosion.
Soils – Loamy fine sands on 2 to						,	
Crop rotation – Continuous corn							
Resource concerns – wind erosio	n, pollution of gr	unge water, low	soil OM, loss of	pheasant habita	ıt.		
	REF	ERENCE FROM	A CPPE AND RI	ESOURCE CON	NSIDERATIONS		
Resource:	Animals						
	Food	Cover and				1	
	(Wildlife)	Shelter					
	(wilding)	(Wildlife)					
	E-1-a	E-1-b					
RMS # 2	Liu	LIU					
Practice # And Name:							
328-CCS (Continuous Corn)							
329-Cons. Till (no till)	SLI+	SLI+					
392-Field. Windbreak	SLI+	SIG+					
590e-Nutrient Management	NEG	NEG					
505 B + 16	7.00	OI I					
595c-Pest. Management	MOD-	SLI-					
645-Wildlife Upland Mgmt	SIG+	SIG+					
643- whame Opland Mgmt	SIGT	SIGT					
393-Filter Strips	SLI+	MOD+					
333 Titter Surps	SEL	INOB ·					
	L	L	1	I.		<u> </u>	
Developed By/Date		AO Concurrer	nce/Date		SO Conc	currence/Date	

Landuse Type <u>Cropland</u>	Resource	ce Setting No <u>.</u>	MLR	A 90	FIELD OFFICE				
Resource Setting: Owner objective Soils – Loamy fine sands on 2 to 7 Crop rotation – Continuous corn for	'% slopes, unshel				ution to ground water, an	nd control wind eros	ion.		
Resource concerns – wind erosion									
		EFERENCE FI	ROM CPPE AN	D RESOURCE CON	ISIDERATIONS				
Resource:	Soil				Water	Water			
	Sheet & Rill Erosion	Wind Erosion	Tilth A-2-a	Deposition Offsite Damages	Ground H20 Contamination Pesticide B-2-a	Ground H20 Contamination Nutrients and Organics. B-2-b	Surface Contamination Pesticide B-2-g		
RMS # 2	A-1-a	A-1-0	A-2-a	A-3-0	D-2-a	D-2-0	D-2-g		
Practice # And Name:									
328-CCS (Continuous Corn)									
329-Cons. Till (no till)	SIG+	SIG+	SIG+	SIG+	SLI-	SLI-	MOD+		
392-Field Windbreak	NEG	SIG+	SLI+	SLI+	NEG	NEG	NEG		
590e-Nutrient Management	NEG	NEG	NEG	NEG	NEG	SIG+	NEG		
595c-Pest. Management	NEG	NEG	NEG	NEG	SIG+	NEG	SIG+		
645-Wildlife Upland Mgmt	SLI+	SLI+	SLI+	SLI+	SLI+	SLI+	MOD+		
393-Filter Strips	NEG	NEG	NEG	SIG+	MOD+	MOD+	MOD+		
Developed By/Date		AO Concurre	unaa/Data		SO Conguerono	o/Data			
Developed by/Date		AO CONCUITE	nce/Date		SO Concurrence	E/Date	<u> </u>		

MINNESOTA TECHNICAL GUIDE SECTION III CONSERVATION MANAGEMENT SYSTEM (CMS) GUIDANCE DOCUMENT Resource Setting No. MLRA 90 FIELD OFFICE

Landuse Type <u>Cropland</u>	Resource	ce Setting No	ML	RA 90	FIELD OFFICE				
Resource Setting: Owner objecti Soils – Loamy fine sands on 2 to Crop rotation – Continuous corn Resource concerns – wind erosion	7% slopes, unshel for grain.	Itered distance	es often exceed	1000 feet.	ution to ground water, ar	nd control wind erosion.			
resource concerns while crossor				AND RESOURCE CO	ONSIDERATIONS				
Resource:	Soil				Water				
	Sheet & Rill Erosion A-1-a	Wind Erosion A-1-b	Tilth A-2-a	Deposition Offsite Damages A-3-b	Ground H20 Contamination Pesticide B-2-a	Ground H20 Contamination Nutrients and Organic B-2-b	Surface Contamination Pesticide B-2-g		
RMS # 2 Practice # And Name:							S		
328-CCS (Continuous Corn)									
329-Cons. Till (mulch)	SIG+	SIG+	SIG+	SIG+	SLI-	SLI-	MOD+		
392-Field Windbreak	NEG	SIG+	SLI+	SLI+	NEG	NEG	NEG		
590e-Nutrient Management	NEG	NEG	NEG	NEG	NEG	SIG+	NEG		
595c-Pest Management	NEG	NEG	NEG	NEG	SIG+	NEG	SIG+		
645-Wildlife Upland Mgmt	SLI+	SLI+	SLI+	SLI+	SLI+	SLI+	MOD+		
393-Filter Strips	NEG	NEG	NEG	SIG+	MOD+	MOD+	MOD+		
Developed By/Date		AO Concurr	rence/Date		SO Concurrence	e/Date			

Landuse TypeC	ropland	Resource	ce Setting No	1 MLRA	90	FIELD OFFICE _			
Resource Setting: Oresources. Soils – Fine sandy le	,		1 , 5	e for dairy operation	n, minimize erosion	and reduce impact	operation ha	as on surface and gro	ound water
Crop rotations – gra									
Resource Concerns				and impact of pesti	cide use on water re	esources.			
	·			ROM CPPE AND F					
Resource:		Soil		Water			Plants	Animals	
		Sheet and Rill Erosion	Deposition On Site Damage	Ground H20 Contamination Pesticide B-2-a	Ground H20 Contamination Nutrients/ Organics B-2-b	Surface Contamination Nutrients/ Organics B-2-h	Nutrient Mgmt.	Cover and Shelter (Wildlife) E-1-b	
RMS # 1 Practice # And Nam	ne:	71 1 4	71 3 u	D 2 u	B 2 0	<i>B 2</i> II	B 3 0		
328-CCS (5 hay-3cg	g))								
585-Cons. Strip Cro	pp.	SIG+	SIG+	SLI+	SLI+	SLI+	MOD+	MOD+	
590e-Nutrient Mana	ngement	NEG	NEG	NEG	SIG+	SIG+	SIG+	MOD+	
595e-Pest Managem	nent	NEG	NEG	SIG+	NEG	NEG	NA	SLI+	
633-Waste Utilization	on	SLI+	SLI+	NEG	MOD+	SIG+	SIG+	NEG	
645-Wildlife Uplan	d Mgmt	SLI+	SLI+	NEG	NEG	SLI+	MOD+	SIG+	
393-Filter Strip		NEG	SLI+	MOD+	MOD+	MOD+	NEG	SLI+	
Developed By/Date			AO Concurrer	nce/Date	1	SO Concurren	nce/Date		

Landuse Type Cropland	Resour	rce Setting No.	MLRA	90	FIELD OFFICE			
Resource Setting: Owner objective Soils – Loamy fine sands on 2 to Crop rotation – Continuous corn for Resource concerns – wind erosion	7% slopes, unshe for grain. a, pollution of gro	eltered distances of ound water, low so	ten exceed 1000 il OM, loss of ph	feet. easant habitat.		control wind eros	sion.	
D.		ERENCE FROM C	PPE AND RES	OURCE CONSI	IDERATIONS			
Resource:	Soils							
	Food (Wildlife) E-1-a	Cover and Shelter (Wildlife) E-1-b						
RMS # 1								
Practice # And Name:								
328-CCS (Continuous Corn)								
329-Cons. Till (no till)	SLI+	SLI+						
392-Field Windbreak	SLI+	SIG+						
590e-Nutrient Management	NEG	NEG						
595c-Pest. Management	MOD-	SLI-						
645-Wildlife Upland Mgmt	SIG+	SIG+						
393-Filter Strips	SLI+	MOD+						
Developed By/Date		AO Concurrence	/Date		SO Concurrence/	'Date		

MINNESOTA TECHNICAL GUIDE SECTION III CONSERVATION MANAGEMENT SYSTEM (CMS) GUIDANCE DOCUMENT Resource Setting No. MLRA 91 FIELD OFFICE

Landuse Type Cropland	Resource	ee Setting No.	M	LRA 91	_ FIELD OFFICE	<u> </u>
Resource Setting: Owner objecting ground water resource. Soil – Loamy fine sands on 1 to 6 Resource concerns – low soil OM	5% slopes.	-		, soybeans and other cr	rops while minimizi	ng soil erosion and pollution of the
	REFE	ERENCE FRO	M CPPE AN	D RESOURCE CONS	SIDERATIONS	
Resource:	Soil					
	Sheet & Rill Erosion	Wind Erosion	Tilth	Deposition Onsite Damage	Deposition Offsite Damage	
	A-1-a	A-1-b	A-2-a	A-3-a	A-3-b	
RMS # 1 Practice # And Name:						
328-CCS (Corn/soybeans)					1	
329m-Cons. Tillage	SIG+	MOD+	MOD+	MOD+	MOD+	
590e-Nutrient Management	NEG	NEG	NEG	NEG	NEG	
595c-Pest. Management	SLI+	SLI+	NEG	NEG	NEG	
392-Field Windbreak	SLI+	SIG+	SIG+	SLI+	MOD+	
645-Wildlife Upland Mgmt	SLI+	SLI+	SLI+	NEG	NEG	
393-Filter Strips	NEG	NEG	NEG	SLI+	SIG+	
Developed By/Date		AO Concurre	ence/Date		SO Conci	urrence/Date

MINNESOTA TECHNICAL GUIDE SECTION III CONSERVATION MANAGEMENT SYSTEM (CMS) GUIDANCE DOCUMENT Resource Setting No. MI RA 91 FIFT DOFFICE

Landuse Type <u>Cropland</u>	Resource Se	etting No	MLRA 91	FIELD	OFFICE		
Resource Setting: Owner objective resource. Soil – Loamy fine sands on 1 to 6%		on production of o	corn, soybeans and	other crops while	minimizing soil e	erosion and pollution of	of the ground water
Resource concerns – low soil OM,		aching, wind erosic	on.				
	REFE	ERENCE FROM C	PPE AND RESOU	RCE CONSIDER	ATIONS		
Resource:	Water						
	Ground Water	Ground H20	Surface	Surface	Nutrient	Pest.	
	Contamination Pesticides	Contamination Nutrients/	Contamination Pesticide	Contamination Nutrients/	Management	Management	
	1 esticides	Organics	1 esticide	Organics			
	B-2-a	B-2-b	B-2-g	B-2-h	D-3-b	D-3-c	
RMS # 1			C				
Practice # And Name:							
328-CCS (Corn/Soybeans)							
329m-Cons. Tillage	NEG	NEG	MOD+	MOD+	NEG	NEG	
590e-Nutrient Management	NEG	SIG+	NEG	SIG+	SIG+	SLI+	
595c-Pest. Management	SIG+	NEG	SIG+	NEG	NA	SIG+	
392-Field Windbreak	SLI-	SLI-	NEG	NEG	MOD+	NEG	
645-Wildlife Upland Mgmt	NEG	NEG	SLI+	SLI+	SLI+	SLI+	
393-Filter Strips	MOD+	MOD+	MOD+	MOD+	NEG	NEG	
		•	1	1	,		
Developed By/Date	AC	Concurrence/Date	2	S	SO Concurrence/	Date	

Landuse Type Cropland	Resource S	Setting No. 1	MLRA	88, 90	FIELD OFFICE		
Resource Setting: Owner objecti	ves – Production of h	nigh quality feed/for	rage for a 40 to 60	cow dairy herd.			
Soils – loams and silt loams 6% t				•			
Vegetation – grass/legume hay (5	5 – 7 yrs) with small g	grain or corn silage	(1-2 yrs) for feed	d and stand renovat	ion. Resource co	oncern-maintaining	g legume
component in forage and erosion	control during years	of annual crop prod	duction.				
	REFEREN(CE FROM CPPE A	AND RESOURCE	CONSIDERATIO	NS		
Resource:	Soil		Water	Plants	Plants		
	Sheet and Rill	Concentrated	Nutrients	Production	Nutrient	Cover and	
	Erosion	Flow	And		Management	Shelter	
			Organics			(Wildlife)	
	A-1-a	A-1-c	B-2-h	D-2-a	D-3-b	E-1-b	
RMS # 1							
Practice # And Name:							
328-Cons. Crop Sys Hay/Corn							
Silage Rotation							
590e-Nutrient Management	MOD+	NEG	SIG+	MOD+	SIG+	MOD+	
412-Grass Waterway	NEG	SIG+	MOD+	SLI+	NA	SLI+	
633-Waste Utilization	MOD+	SLI+	SIG+	MOD+	SIG+	SLI+	
645-Wildlife Upland Mgmt	MOD+	MOD+	MOD+	MOD+	MOD+	SIG+	
393-Filter Strips	NEG	NEG	MOD+	SLI+	NEG	MOD+	
Developed By/Date	A	O Concurrence/Dat	te		SO Concurrence	/Date	